MASTER'S THESIS

How situational organizational factors affect the relationship between technostress and job burnout.

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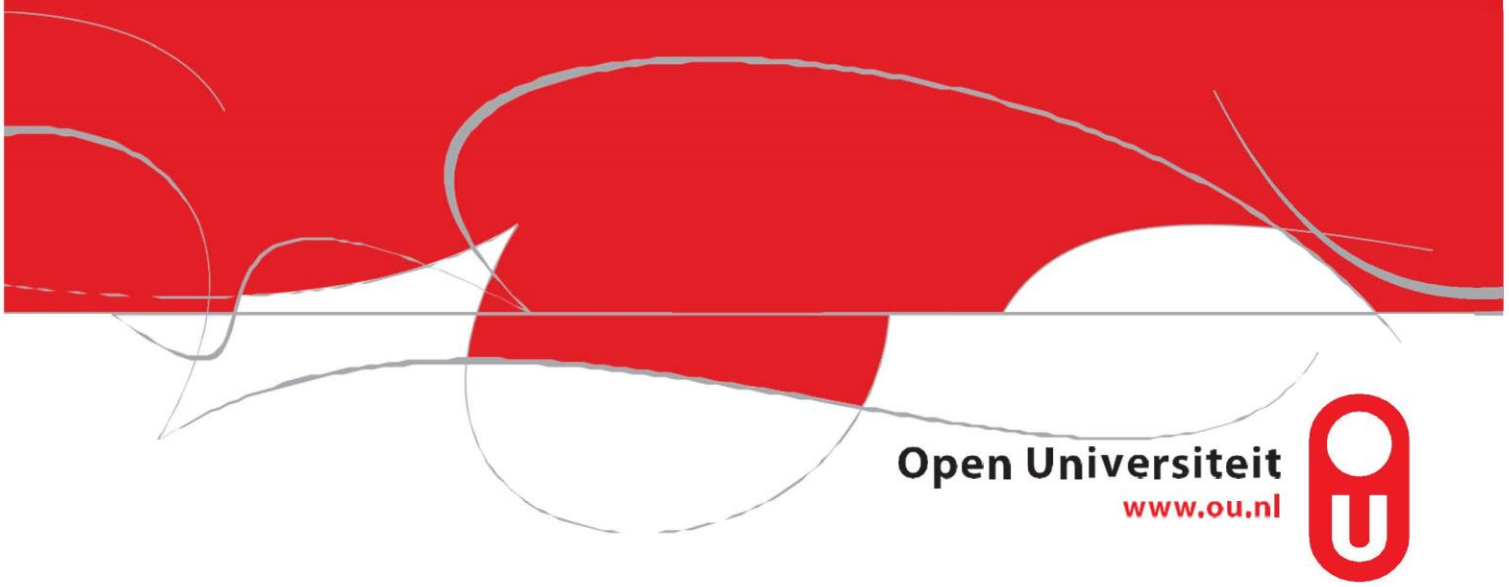

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How situational organizational factors affect the relationship between technostress and job burnout.

De wijze waarop organisatie-omgevingsfactoren de relatie tussen techno-stress en burn-out beïnvloeden.

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Abstract

I investigate the relationship between technostress and job burnout and the significant impact situational organizational factors, in terms of technostress called techno-inhibitors, have on this relationship. This contributes to the existing body of knowledge, because of the perceived gap of knowledge with respect to this matter. This study has been carried out in a municipality in the Netherlands. A number of 182 cases has been analyzed using partial least squares structural equation modeling. The findings show a significant positive association between technostress and job burnout. I find that, while literacy facilitation has a significant impact on decreasing this association, this is not the case for involvement facilitation and technical support provision. Also, based on demographics the moderating effect of the situational organizational factors can change or even be non-existing, e.g. when employees are highly-educated. Additionally, I show that the significant impact of literacy facilitation is higher when taking into account the four core aspects of job burnout together, and non-existing when taking into account only one of the core aspects, namely exhaustion. The non-existing significant impact of involvement facilitation and technical support provision was not expected. This, the different outcomes based on demographics and per core aspect of job burnout, and the limitations give directions for further research.

Key terms

Technostress, job burnout, (technostress) inhibitors, situational organizational factors, transactional model of stress and coping, involvement facilitation, literacy facilitation, technical support provision.

Summary

Motivation and relevance of the study and the problem statement

Information and communication technologies (ICTs) have brought many advantages to both individuals and organizations. The downside of the introduction of ICTs is that individuals, in both their personal and work life, are confronted with rapid ICT-changes, system upgrades, being connected, or "live", all the time which in some cases lead to stress symptoms. Stress created due to ICTs is called technostress (TS). Stress can lead to different outcomes, amongst others job burnout (JBO). The effects of JBO can lead to damaging consequences for both organizations and a person's health. Earlier studies have proven that the outcome of stress can be weakened because of situational organization factors. In terms of TS these are called technostress inhibitors (TSI). From managerial perspective, it is interesting to learn about the tools that can lower the chance of a JBO. Because of the negative effects of TS, the severe outcomes of JBO and the potential lowering power TSI have, this was an interesting field to study. Moreover, to the best of my knowledge, none of the earlier studies had investigated these three factors together in one study. Therefore, the main objective of this study was to contribute towards a resolution of a perceptible gap of knowledge. The research question was formulated as follows: *"Do situational organizational factors play a significant role in influencing the effect of technostress on job burnout?"*.

Research method

The population of interest was the working population that works with technology on a daily basis living in the Netherlands. A quantitative research design was used to examine the relationships between the variables. The research strategy chosen was a survey. A questionnaire was sent to 499 people working for a municipality in the Netherlands. In total, a number of 182 cases were used for the analysis. TS is a second order formative construct, consisting of five first order reflective construct. JBO is a second order formative construct, consisting of four core and two secondary reflective constructs. There were three TSI selected to measure the moderating effect that each of

the TSI has on the relationship between TS and JBO. These three TSI are literacy facilitation (LF), involvement facilitation (IF) and technical support provision (TSP). All three constructs are first order reflective constructs. Next to the main constructs, control variables like age, gender, work experience, education, and x-hour work week were part of the research. All questions were derived from earlier studies and translated into Dutch.

Main outcomes

As there is considerable debate among researchers about the proper operationalization of the JBO construct, I decided to investigate a set of different models.

Firstly, a model was examined including TS, JBO, LF, IF and TSP, using the 182 cases. All first order constructs were included. The path coefficient between TS and JBO was 0,48 and statistically significant at the 0.01 level. LF had a significant moderating effect on this relationship: path coefficient of -0,13 ($p < 0.10$) . The R^2 value was weak: 0.30. The predictive relevance Q^2 of JBO has a value of 0.27. Both IF and TSP had no significant moderating effect.

Secondly, a model was examined that only included the four core first order constructs of JBO, using 182 cases. The relationship between TS and JBO turned out to be significant: path coefficient of 0,48 ($p < 0.01$). LF had a significant moderating effect on this relationship: path coefficient of -0,15 ($p < 0.05$). The R^2 value was weak: 0,32. The predictive relevance Q^2 of JBO has a value of 0,34. Both IF and TSP had no significant moderating effect.

Thirdly, four models were examined for each of the core first order construct of JBO, namely exhaustion (EXH), mental distance (MD), cognitive impairment (CI), and emotional impairment (EI). The path coefficient between TS and EXH was the highest being 0,46 ($p < 0.01$), then EI 0,45 ($p < 0.01$), CI 0,37 ($p < 0.01$), and MD 0,23 ($p < 0.05$). Looking at the moderating effects, LF had a moderating effect on CI (-0,25; $p < 0.01$), MD (-0,19; $p < 0.05$), and EI (-0,16; $p < 0.05$) . The path coefficient of LF on TS and EXH was statistically not significant. Both IF and TSP had no significant moderating effect.

Fourthly and lastly, the main model, including all first order constructs, was examined for different demographics: male (103 cases), bachelor and above (116 cases), and work experience 10 years and more (155 cases). Again, all the relationship between TS and JBO were significant at a 0.01 level. The path coefficient for the group “bachelor and above” was the highest (0,57), which was unexpected. The R^2 value had the highest value for the male participants: 0,38. LF had the strongest moderating effect for the male-participants: path coefficient -0,25 ($p < 0.01$). Noteworthy, that LF had no significant moderating effect on highly-educated people. Both IF and TSP had no significant moderating effect.

Conclusions and recommendations

In all cases, I found a significant relationship between TS and JBO. This confirmed previous findings. I had assumed that LF, IF and TSP had a moderating effect. However, this was the case for LF only and did not apply to highly-educated people. LF had the highest moderating effect on male. The significant impact of LF was also present for MD, CI and EI, was the highest when taking into account the core aspects of JBO together, and non-existing for EXH. The different outcomes based on demographics and per core aspect of JBO give directions for further research as this cannot be explained by earlier academic research. The outcome that both IF and TSP had no significant moderating effect was not expected and is therefore worthwhile to further investigate. The study had several limitations, amongst others it was a snapshot in time, it was executed in a nonprofit/ governmental organization, the sample feature work experience was decisive and the average age was quite high. These limitations give recommendations for further research too. From managerial perspective, it could be wise to consider investments in LF.

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List of abbreviations

BAT	Burnout assessment tool
CI	Cognitive impairment
CO	Techno-complexity
EI	Emotional impairment
EXH	Exhaustion
HOC	Higher-order component
ICT	Information and communication technology
IF	Involvement facilitation
IN	Techno-invasion
INS	Techno-insecurity
JBO	Job burnout
LF	Literacy facilitation
LOC	Lower-order component
LVS	Latent variable score
MBI	Maslach burnout inventory
MD	Mental distance
OV	Techno-overload
PC	Psychosomatic complaints
PD	Psychological distress
PLS-SEM	Partial least squares structural equation modeling
TMSC	Transactional model of stress and coping
TS	Technostress
TSC	Technostress creators
TSI	Technostress inhibitors
TSP	Technical support provision
UN	Techno-uncertainty

1. Introduction

Starting from the late nineties, Information and Communication Technologies (ICTs) have brought many advantages to organizations and individuals alike. Nowadays, ICTs make data and information available continuously and thus support the achievement of organizational goals. One of the benefits of ICTs for individuals is that they can stay connected with family and friends via smartphones or other mobile devices, wherever they are and at all times. However, these advantages do not come without a cost. Nawe (1995) stated that while there are dramatic and liberating benefits of information technology, individuals are also confronted with new time demands, knowledge or skills deficiencies, and psychological pressure due to their ICT use. Employees have to cope with technological changes and might experience negative feelings due to, for example, the massive amount of e-mails to handle and messages popping-up repeatedly. Such work stress caused by ICTs is called technostress (TS) (Ayyagari, Grover, & Purvis, 2011). TS has been defined as "a modern disease of adaption caused by an inability to cope with the new computer technologies in a healthy manner" (Brod, 1984). According to Tarafdar, Tu, and Ragu-Nathan (2010), TS can lead to a decrease in individual productivity, which can impact organizations negatively as a consequence. Because of the possible negative outcomes for both personal and professional lives, the concept TS is an interesting field of study and will now be explained in more detail.

Research showed that TS is manifested through five sub-dimensions: techno-overload, techno-invasion, techno-complexity, techno-insecurity and techno-uncertainty (Tarafdar, Qiang, Ragu-Nathan, & Ragu-Nathan, 2007). These five sub-dimensions are also known as technostress creators (TSC). A feeling of increased workload due to ICTs, is referred to as techno-overload. With techno-invasion is meant that people might feel, work can enter all areas of life due to ICTs. Techno-complexity refers to the feeling of a lack of confidence using new technologies. Techno-insecurity means that users are anxious to lose their jobs, because they think co-workers have a better understanding of the ICT or the ICT will replace them. Techno-uncertainty refers to situations where ICT upgrades create uncertainty for users, in that they constantly have to learn to use the ICTs.

Stress is an abstract phenomenon that is not easy to describe or measure and therefore needs some additional clarification. The most prominent model of stress, the transactional model of stress and coping (TMSC), posits that stress is a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being (Lazarus, Folkman, 1984). The person's appraisal determines whether or not a particular person-environment relationship is perceived as stressful. Factors either personal or organizational might influence the appraisal and thus the relationship. Previous studies have focused on the effects of TS as well as how situational variables might influence that relationship (Gaudioso, Turel, & Galimberti, 2017; Jena, 2015; Ragu-Nathan, Tarafdar, Ragu-Nathan, & Tu, 2008; Suh & Lee, 2017; Tarafdar, Pullins, & Ragu-Nathan, 2015; Tarafdar et al., 2010). As such, prior research on an individual level, has explored the role of personality traits in influencing the relationship between TS and job outcomes such as job burnout (JBO) and job engagement (Srivastava, Chandra, & Shirish, 2015). Prior research on situational organizational level has investigated factors such as literacy facilitation (LF), technical support provision (TSP), and involvement facilitation (IF) (Jena, 2015; Ragu-Nathan et al., 2008; Tarafdar et al., 2015; Tarafdar et al., 2010). In this study, with respect to the factors that might influence an individual's appraisal, I focus on the organizational factors. In relation to TS, these situational organizational factors are called technostress inhibitors (TSI). LF, IF and TSP are concrete examples of TSI.

The TSC, those that can trigger stress, and the TSI, the situational organization factors that might influence the individual's appraisal, are mentioned. In addition, I talk about what technostress can lead to. Research showed that the job related outcomes of TSC are JBO, the perceived feeling of role overload, role conflict and work exhaustion and lower job engagement, commitment and job satisfaction (Gaudioso et al., 2017; Jena, 2015; Ragu-Nathan et al., 2008; Srivastava et al., 2015; Tarafdar et al., 2007). In this study, I am particularly interested in JBO. JBO is a syndrome defined by emotional exhaustion that results in depersonalization and decreased personal work accomplishment (Maslach, Jackson, Leiter, Schaufeli, & Schwab, 1986). On an individual level, Maslach (2003) showed that people suffering from a burnout feel emotionally drained, detached from others, and experience a sense of failure in quality of work. Another study showed that JBO can lead to three interrelated depleted feelings: emotional exhaustion, physical fatigue and cognitive weariness (Shirom, 2003). Within healthcare, several studies have pointed out that on an organizational level burnout is a critical issue, as it can lead to the decreased effectiveness of the workforce and, ultimately, poorer quality of care (Priebe et al., 2004; Roch, Dubois, & Clarke, 2014).

Given the negative organizational and individual outcomes that are associated with JBO, it is of considerable value to investigate the relationship between TS and JBO. From a managerial perspective, it is interesting to explore the effect of situational organizational factors, in the TS field called TSI, that might impact that relationship, because it sheds light on what adjustments are needed to effectively manage the negative effects of TS. Hence, in my study, I will investigate the following research question: *Do situational organizational factors play a significant role in influencing the effect of technostress on job burnout?* The main objective of this research is to contribute towards a resolution of a perceptible gap of knowledge. The gap of knowledge is specified as the theoretical understanding of the moderating influence of situational organizational factors on the relationship between TS and JBO. None of the past studies have linked TS and situational organizational factors to examine their joint influence on JBO. By addressing the aforementioned gap in this study, a contribution to both TS related research and practice will be made.

The remainder of this paper is structured as follows. Chapter 2 provides the theoretical framework. As such, it introduces the main concepts of this study such as stress in general, including stressors, strain and influencing factors and then more specific TS, JBO and the situational organizational factors. Also, it elaborates on the TMSC which is used to derive the main research hypotheses. Chapter 3 elaborates on the methodology. It covers a substantiation for the empirical research. Chapter 4 tests the model using data from survey responses of employees that work for a municipality in the Netherlands. In Chapter 5 the findings of this study are discussed, the limitations are highlighted, and future directions for research in this domain are identified.

2. Theoretical framework

This chapter focuses on the theoretical model used to derive the main research hypotheses. As mentioned, the TMSC (Lazarus, 1966; Lazarus & Folkman, 1984) is the overarching theory that forms the basis for the research model. Before I move to this theory underlying the research model which results into the hypotheses (§ 2.2), the research approach is explained in more detail (§2.1).

2.1. Research approach

I used a phased plan as described by Saunders, Lewis, and Thornhill (2007). They explain that despite the assertion that the literature search is often an early activity, it is usually necessary to continue searching throughout the project's life. The literature search is a continuous process, culminating in

the final draft of the written critical review. The steps I took are as follows. In the initial stage, I defined the parameters to the research and review. Then, after generating search terms and conducting the first search, I wrote down a list of references to authors who have published on the subject. The associated documents were then evaluated, and the ideas were recorded. This led to the first draft of my review. Because it's an iterative process, each later search was more focused on the relevance of the material keeping the research question in mind.

It is essential to look for peer reviewed work. This means looking for work that is evaluated by academic peers prior to publication to assess the quality and suitability (Saunders et al., 2007). Articles in refereed academic journals e.g. are usually written by recognized experts in the field. The Open University library was used to find articles in the databases like Business Source Premier, Academic Search Elite, Eric, EBSCO Host and Google Scholar. Besides these articles in refereed academic journals, also a set of books authored by academics added distinctive value, one prominent example is the book on the TMSC by Lazarus and Folkman (1984). The choice whether to include a book or not in the literature review, was to look if other peer reviewed articles used this book as a reference too. If this was the case the book was considered to be of high academic value.

Key words used for the literature review, sometimes combined [AND], are "(techno)stress", "job outcome", "job burnout", "situational (organizational) factors", "influencing factors", "transactional model of stress (and coping)", "transaction-based approach", "stressors", "strain", "inhibitors".
With many of the above key words used, the database came up with many hits. For example, the key words "technostress", "job burnout" and "situational factors" resulted in respectively 82, 651 and 1.274 hits in the Business Source Premier database. As a result, I tried more specific search terms, e.g. "situational organizational factors", which resulted in 42 hits in this same database. The assumption was made that the list of hits was sorted by relevance. Meaning, that top-down the titles were checked on relevance. If the title was considered relevant, the abstract was read. If, after reading the abstract, the article still seemed to be relevant for the literature review, the introduction and potentially the discussion was read. If the article turned out to be of value for the literature review, the references used within that article were the starting point for the next round of literature review. This latter search method turned out to be very useful. It is named backwards snowballing. To a lesser extent forwards snowballing was used too.
In the end, about 30 to 40 articles were checked for relevance by reading the abstract and potentially the other mentioned sections, of which five to ten turned out to be of highest value. These articles and their references were the basis of the theoretical framework in this research. The most relevant articles and academic books used in this research were from Lazarus and Folkman (1984), Cooper et al. (2001),Tarafdar et al. (2007) ,Ragu-Nathan et al. (2008), Tarafdar et al. (2010), Tarafdar et al. (2015), Srivastava et al. (2015), Jena (2015).

2.2. Theory and hypotheses

Stress in general

The concept of stress is very vague. It is often described as the way how people feel or the symptoms that they show when they have to deal with conditions that create stressful situations. As such, stress is an intangible concept. According to McGrath (1976), there is a potential for stress to arise when an environmental situation is perceived as presenting a demand that threatens to exceed the person's capabilities and resources for meeting it. Also, not meeting this demand is perceived as highly undesirable. Cooper et al. (2001) defined stress as a psychological reaction to some sort of an imbalance between a person and the environment. From these two definitions one can conclude on a

few things. First, stress has to do with a person's cognitive appraisal of a situation. Second, there has to be a perceived imbalance between a person's capability and the demands imposed by the environment. Third, the difference in consequences of meeting the demands versus not meeting the demands is by the person perceived as significant. Underpinning much of the academic work on stress is the so-called transaction-based approach (Cooper et al., 2001; Lazarus, 1966; Lazarus & Folkman, 1984; McGrath, 1976). The TMSC posits that stress is a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being (Lazarus, Folkman, 1984). The overall transactional process is referred to as stress. A graphical representation of the TMSC based on the theory developed by Lazarus and Folkman (1984) is showed in figure 1.

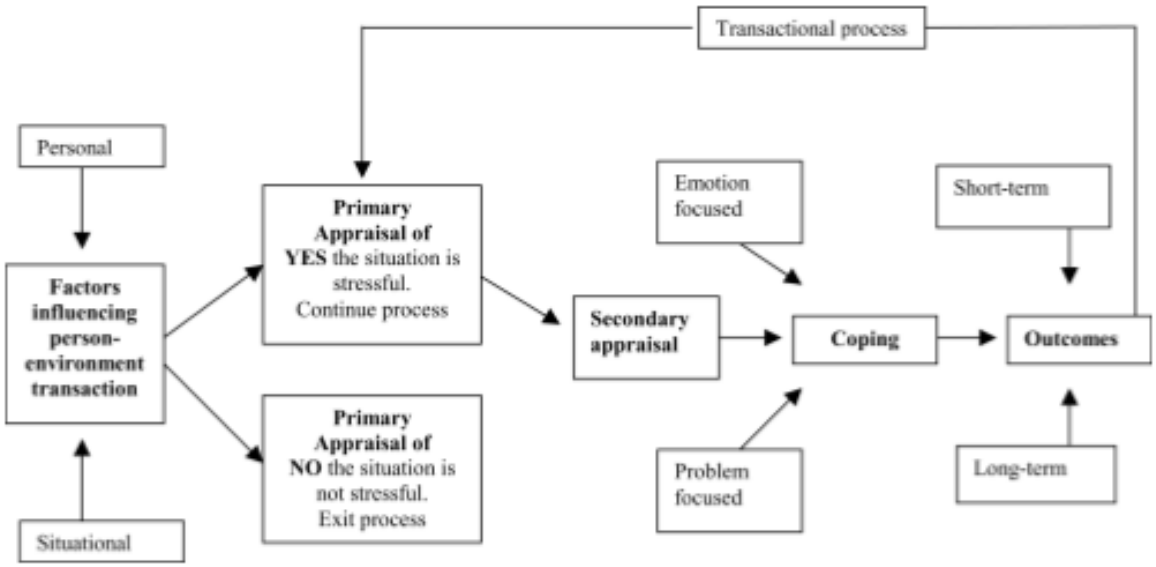

Figure 1 Transactional Stress/ Coping Model used to guide the current research. Based on the theory developed by Lazarus and Folkman (1984).

Whether a situation is perceived as stressful depends on two separate appraisals. The primary appraisal is used to determine if the situation is perceived stressful and it determines the intensity of the stress. The secondary appraisal is used to assess the possibilities for coping actions and their potential result (Lazarus & Folkman, 1984). The coping actions are the result of the appraisal and change the initial appraisal. This process continues until the situation is perceived as not harmful anymore (Schuster, Hammitt, & Moore, 2006).

The TMSC will be further explained by referring to the different terms used in the models: stimuli or stressors, strain and influencing factors. Stressors are the stimuli encountered by an individual (Cooper et al., 2001). A stimulus is a stressor when it produces a stressful behavioral or physiological response (Lazarus & Folkman, 1984). If a situation is perceived as stressful by an individual, it has an effect on his well-being. The outcome of stress that is observed in the individual is either behavioral or psychological and is referred to as strain (Cooper et al., 2001). Strain is the result of being exposed to stressors. Strain can lead to many potential outcomes among others job dissatisfaction (Jackson & Schuler, 1985) and lack of creativity (Hackman & McGrath, 1970). In the most general case, stressors increase strain or, more specific, stress related outcomes for the individual (Cooper et al., 2001; McGrath, 1976). According to the TMSC, an individual's appraisal determines whether or not a particular person-environment relationship is perceived as stressful (Lazarus & Folkman, 1984). This appraisal is influenced by factors and creates great individual variations in the response to the stressors. These factors can either be personal or situational organizational. This study is about situational organizational factors, hence I will focus on these factors particularly.

Technostress

The phenomenon of TS describes the situation of stress experienced by the individual because of an inability to adapt to the introduction of new technology in a healthy manner (Brod, 1984). In organizational context, TS can be described as stress experienced by users as a consequence of technical problems, constant connectivity, system upgrades, continual relearning, emerging applications, multitasking, information overload, constant uncertainty and job-related insecurities (Ayyagari et al., 2011; Tarafdar, Qiang, Ragu-Nathan, & Ragu-Nathan, 2011; Tarafdar et al., 2010). This can lead to individuals feeling frustrated and distressed as a result (Brod, 1984). Likewise, the general concept of stress, technostress is a transactional process of an individual's appraisal of the person-environment relationship that can be affected by factors.

Stressors are the stimuli encountered by an individual (Cooper et al., 2001). With respect to the TMSC, these are the input and with respect to TS these are named TSC (Ragu-Nathan et al., 2008). Based on the different consequences of ICTs, five types of TSC are distinguished: techno-overload, techno-invasion, techno-complexity, techno-insecurity and techno-uncertainty (Tarafdar et al., 2007). A feeling of increased workload due to ICTs, is referred to as techno-overload. With techno-invasion is meant that people feel that their work life permeates all other areas of their life due to ICTs. Techno-complexity refers to the feeling of a lack of confidence using new technologies. Techno-insecurity means that users are anxious to lose their jobs, because they think co-workers have a better understanding of the ICT or the ICT will replace them. Techno-uncertainty refers to situations where ICT upgrades create uncertainty for users, in that they constantly have to relearn to use the ICTs.

As mentioned, if a situation is perceived as stressful, strain is the result of stressors and manifests either behavioral or psychological (Cooper et al., 2001). An example of technostress and associated strain is negative performance as a result of perceived work overload and information fatigue, resulting in frustrated employees (Tarafdar et al., 2015; Tarafdar et al., 2007). Other studies examined how technostress is negatively associated to satisfaction (Jena, 2015; Ragu-Nathan et al., 2008; Suh & Lee, 2017; Tarafdar et al., 2010).

Job burnout: a particular strain

This study is about a particular strain, namely JBO. Literature about stress in general indicates that stress manifests in various conditions including the negative job outcome JBO (Jackson, Schwab, & Schuler, 1986). It refers to a state of mental exhaustion and the term was first used in the late seventies. Almost four decades, JBO is seen as a social and scientific issue that needs our attention (W. B. Schaufeli, De Witte, & Desart, 2019). JBO is recognized as an occupational disease or work-related disorder (Lastovkova et al., 2018). According to W. B. Schaufeli et al. (2019), there are four core dimensions that form the concept JBO. Firstly, exhaustion refers to a severe loss of energy that results in feelings of both physical and mental exhaustion. Secondly, emotional impairment manifests itself in intense emotional reactions and feeling overwhelmed by one's emotions. Thirdly, cognitive impairment is indicated by memory problems, attention and concentration deficits and poor cognitive performance. Fourthly and lastly, mentally and psychologically distancing oneself from the work is indicated by a strong reluctance or aversion to work. Based on these descriptions, I can conclude that JBO is a negative feeling and strain.
Based on the literature, one can say that stressors negatively influence positive job outcomes and positively influence negative job outcomes. Therefore, the first hypothesis is as follows.

H1. Technostress is positively related to job burnout.

Situational organizational factors

An individual's appraisal of the person-environment relationship can be influenced positively or negatively by factors external to the individual. Situational factors are the organizational mechanisms that impact the previously mentioned appraisal and thereby moderate the relationship between stressors and strain. In technostress literature these situational factors are called TSI. TSI are the situational factors that influence the perceived negative feelings due to technostress creators (Ragu-Nathan et al., 2008). They provide support to users through mechanisms that are related to their use of ICTs. In previous studies the TSI subject of study were: LF, TSP and IF (Jena, 2015; Ragu-Nathan et al., 2008; Tarafdar et al., 2015; Tarafdar et al., 2011; Tarafdar et al., 2010). Like mentioned, the primary appraisal is used to determine if the situation is perceived stressful and it determines the intensity of the stress (Lazarus & Folkman, 1984). Hence, these situational organizational factors can influence the primairy appraisal. Because this study focuses solely on the moderation analysis each moderator will be handled in more detail seperately.

Literacy facilitation

LF is about mechanisms that encourage and stimulate the sharing of ICT-related knowledge within the organization. It reduces TS because it facilitates the employees in using ICTs. New ICTs are often introduced at a rapid rate. So, end users need training and guidance on how to use new systems efficiently to reduce their anxiety and phobia (Clark & Kalin, 1996). These mechanisms enable employees that use ICTs to cope with the demands of learning new ICTs in terms of their functionality and how they can be used (Ragu-Nathan et al., 2008). In addition, they are expected to help users effectively incorporate ICTs in their organizational tasks and reduce feelings of having to do 'too much' with ICTs, of 'being overwhelmed' by ICTs and of 'feeling threatened' by ICTs (Tarafdar et al., 2015). They thus decrease different aspects of TSC and lead to the following hypothesis.

H2. Literacy facilitation negatively moderates the relationship between technostress and job burnout, such that technostress influence job burnout less strongly when literacy facilitation is higher.

Technical support provision

Organizations that invest in TSP increase the level of comfort and assurance experienced by employees using ICTs. Mechanisms like a technology platform or help desk support should be responsive to end users and effective in managing ICT problems (Nelson & Kletke, 1990). TSP is key to reduce interruptions like technical hitches and mistakes during use of workflow applications (Tarafdar et al., 2011). Such mechanisms make it easier for end users to cope with demands of using ICTs either existing or new. They reduce or take away the feeling of having to 'constantly learn' about ICTs (Tarafdar et al., 2015). Insufficient TSP can lead to higher work stress. Timely TSP and collaboration with technical staff can help to improve the work environment (Al-Qallaf, 2006). The level of TS tends to be lower when individuals perceived there was administrative support in the organization (Burke, 2009). Meaning, because of the existence and accessibility of TSP the primairy appraisal that indicates the itensity of the stress is less heavily. This results in the next hypothesis.

H3. Technical support provision negatively moderates the relationship between technostress and job burnout, such that technostress influence job burnout less strongly when organizational technical support factors are higher.

Involvement facilitation

IF has more or less to do with the organizational culture. An example is how managers encourage involvement of end users with respect to ICTs and in particular in trying out new technologies. IF relates for instance to end user involvement before implementating or introducing new technology or

making changes to existing technology. Some practical examples of involvement are participating in planning, clarifying information, approving requirements, giving feedback and undertaking postimplementation support activities (Tarafdar et al., 2010). These mechanisms keep users informed about the rationale of implenting or changing ICTs so end users appreciate and know about the potential benefits (Tarafdar et al., 2015). Another important aspect in the change management process, is to actively communicate changes and their benefits for employees (Parsons, Liden, O'Connor, & Nagao, 1991). Based on the literature these mechanims lead to (better) use of the ICT. Hence, the last hypothesis is:

H4. Involvement facilitation negatively moderates the relationship between technostress and job burnout, such that technostress influence job burnout less strongly when involvement facilitation is higher.

In summary, studies have investigated the phenomenon of TS in many contexts (Ayyagari et al., 2011; Jena, 2015; Lee, Lee, & Suh, 2016; Tarafdar et al., 2015; Tarafdar et al., 2011). In the context of possible outcomes of stress, and in particular stess in a work environment caused by ICT, JBO is a particular strain which is not often looked into despite the negative organizational outcomes. Besides that, only the way how personal traits influence the relationship between TS and JBO was subject of study (Srivastava et al., 2015). Part from personal factors that can influence a person's appraisal, also situational organization factors are worthwile investigating (Tarafdar et al., 2015; Tarafdar et al., 2011; Yan & Tang, 2003). Hence, because of the theoretical relevance and gap of knowledge with respect to all above, this research will focus on the relationship between JBO and TS and the way how the situational organizational factos, called TSI, influence this relationship.

Based upon the literature review and the introduced hypotheses, the research model (figure 2) illustrates the relationships between the variables.

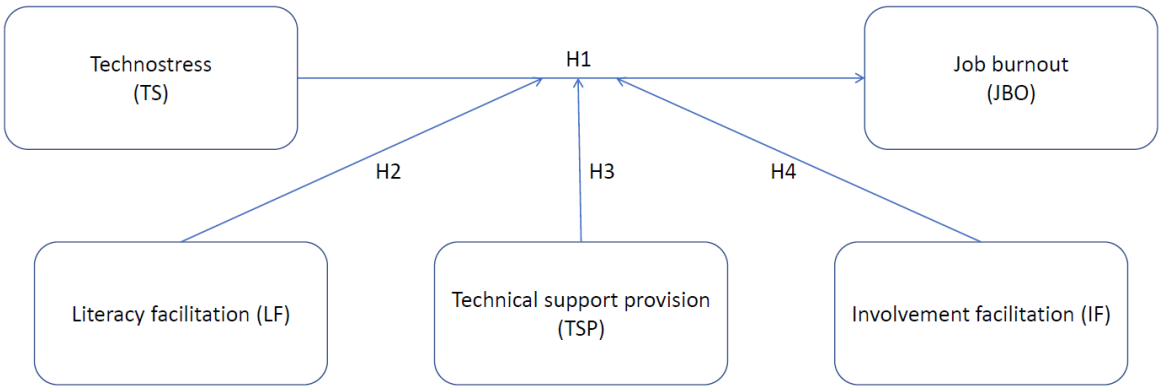

Figure 2 Research model

3. Methodology

This chapter provides a substantiation for the empirical research that has been conducted. The decisions made in relation to the research method are explained and particular attention is paid to providing a justification for all the choices made. The explanation and justification contributes to the quality of this research instigating readers to take this research seriously (Crotty, 1998). Firstly, the choice of research method will be explained (§ 3.1). Secondly, the technical design and method will be elaborated on (§ 3.2). Thirdly and lastly, more information will be shared regarding the data analysis (§ 3.3).

3.1. Conceptual design: select the research method

This research, which is considered an explanatory research, focuses on examining and explaining the relationships between variables. The study is cross-sectional, meaning a "snapshot" is taken at a particular time. Reason for this is that the study is time constrained. Quantitative research is a research design that is very effective in examining relationships between variables. Qualitative research often commences with an inductive approach to theory development, where a naturalistic and emergent research design is used to build theory or to develop a richer theoretical perspective than already exists in the literature (Saunders et al., 2007). In this research I was interested in observable and measurable facts and in discovering relationships in the data to create law-like generalizations (Gill & Johnson, 2002). Therefore, a quantitative research design is more suitable than a qualitative research design.

The research strategy chosen is the survey. It is comparatively easy both to explain and understand, and it is possible to generate findings (Saunders et al., 2007). Another research strategy that could have been used is the experiment. If I would have chosen an experiment, the experimental group would experience the effect of situational organizational factors and the control group would not have any interference of situational organizational factors. For practical reasoning, this research method is not chosen. Namely, it is quite difficult to conduct this type of research in an experimental setting given the large amount of explanatory variables.

A single data collection technique is used: a questionnaire. Using a questionnaire as a data collection method results in an efficient way of collecting responses from a sizable population. The sample used in the survey should be representative, meaning the size of the sample and the way in which it is selected has implications for the confidence of the data and the extent to which generalization is possible (Saunders et al., 2007).

3.2. Technical design: elaboration of the method

I discuss below the steps pertaining to item development, questionnaire design and data collection.

3.2.1. Item Development and Questionnaire Design

It is considered hard to produce a good questionnaire (Oppenheim, 2000). The precise data that is required to answer the research question needs to be collected. Else, the internal validity and reliability of the data can be at risk. Therefore, it is common use to rely on measures developed and validated in prior research.

Main constructs

TS is a second order formative construct. Meaning the five underlying constructs create the concept TS. If one of these five is left out, the concept of TS has a different meaning. The mentioned five underlying constructs are first order reflective constructs. This means that the several items per construct have the same meaning and are highly correlated. The same also applies to the constructs LF, TSP, and IF.

The golden standard to assess JBO is the Maslach Burnout Inventory (MBI). To illustrate, in 91% of all scientific publications on burnout in 1998, the MBI was used (W. Schaufeli & Enzmann, 1998). However, several issues came up (Bresó, Salanova, & Schaufeli, 2007; W. B. Schaufeli et al., 2019). Hence, in 2019 a new way to measure JBO is developed after an extensive study of three years by W. B. Schaufeli et al. (2019): the Burnout Assessment Tool (BAT). JBO is a second order formative

construct. It consists of four core dimensions: exhaustion, mental distance, and cognitive and emotional impairment. Next to the core aspects of JBO, secondary JBO symptoms, like psychological distress and psychosomatic complaints , are used. These symptoms are often associated with JBO, however not exclusively linked to JBO. All six are first order reflective constructs.

Items for TS and LF, TSP and IF were adopted from Tarafdar et al. (2007) and Ragu-Nathan et al. (2008). All these items were measured on a five-point Likert scale anchored with 1="Strongly disagree" to 5="Strongly agree." Its validity and reliability is proven in their study. The items for JBO were adopted from the BAT developed by W. B. Schaufeli et al. (2019). The frequency scale ranges from 1="Never" to 5="Always". Its validity and reliability is proven in their study. For all items, respondents were asked to fill in the option that was most applicable.

Control Variables

Next to the dependent and independent variables, the control variables "Age", "Gender", "Education", "Years of work experience" and "Number of hours worked per week" were included in the questionnaire. Control variables are included because dependent variables can be influenced by more than just the chosen independent variables.
Age can either influence TS positively or negatively. Positively, because older people are more mature and therefore experience less computer anxiety (Rosen & Maguire, 1990). Negatively, because the older people get, the lower the perceived ease of using ICT (Burton-Jones & Hubona, 2005). I expect therefore that age does not affect TS. People were asked to fill in their age in years or they could leave the box empty. With respect to gender, there are older studies that imply that women are, compared to men, less likely to use ICT (Gefen & Straub, 1997; Venkatesh & Morris, 2000). This suggests that women experience greater TS than men. However, this argument might be an artefact from a time where there were fewer women in the workforce. People were able to select "male", "female" or "no answer". Greater levels of education are associated with greater perceived ease of use with respect to ICT's (Igbaria & Parasuraman, 1989). This leads to the assumption, that the higher educated people are, the less they experience TS. Education is measured by ten options ranking from "Primary school, to "Phd". According to Duli (2016), increased years of work experience relates positively with JBO. There were three boxes to select, either "≤4 years", "5-10 years" or "≥10 years". Lastly, longer work hours are associated with high levels of JBO (Pu et al., 2017). Possible choices were "<18 hours a week", "18-36 hours a week", or "≥36 or more hours a week".

Operationalization of Research Constructs

Because the target population was native Dutch, the questions needed to be translated into Dutch. First, it was checked if there were already any validated translations available. This was the case for the TS and JBO constructs. If not, the translation technique used is named back-translation. This technique was used for the TSI and control variables. The operationalization of the TS construct is shown in table 1, TSI in table 2, JBO in table 3, and the control variables in table 4.

Table 1 Operationalization of research construct: TSC

Techno-overload (OV)	
OV1	I am forced by this technology to work much faster.
OV2	I am forced by this technology to do more work than I can handle.
OV3	I am forced by this technology to work with very tight time schedules.
OV4	I am forced to change my work habits to adapt to new technologies.
OV5	I have a higher workload because of increased technology complexity.

Techno-invasion (IN)	
IN1	I spend less time with my family due to this technology.
IN2	I have to be in touch with my work even during my vacation due to this technology.
IN3	I have to sacrifice my vacation and weekend time to keep current on new technologies.
IN4	I feel my personal life is being invaded by this technology.
Techno-complexity (CO)	
CO1	I do not know enough about this technology to handle my job satisfactorily.
CO2	I need a long time to understand and use new technologies.
CO3	I do not find enough time to study and upgrade my technology skills.
CO4	I find new recruits to this organization know more about computer technology than I do.
CO5	I often find it too complex for me to understand and use new technologies.
Techno-insecurity (INS)	
INS1	I feel a constant threat to my job security due to new technologies.
INS2	I have to constantly update my skills to avoid being replaced.
INS3	I am threatened by co-workers with newer technology skills
INS4	I do not share my knowledge with my co-workers for fear of being replaced.
INS5	I feel there is less sharing of knowledge among co-workers for fearing of being replaced.
Techno-uncertainty (UN)	
UN1	There are always new developments in the technologies we use in our organization.
UN2	There are constant changes in computer software in our organization.
UN3	There are constant changes in computer hardware in our organization.
UN4	There are frequent upgrades in computer networks in our organization.

Table 2 Operationalization of research construct: TSI

Literacy facilitation (LF)	
LF1	Our organization encourages knowledge sharing to help deal with new technology.
LF2	Our organization emphasizes teamwork in dealing with new technology-related problems.
LF3	Our organization provides end-user training before the introduction of new technology.
LF4	Our organization fosters a good relationship between IT department and end users.
LF5	Our organization provides clear documentation to end users on using new technologies.
Technical support provision (TSP)	
TSP1	Our end-user help desk does a good job of answering questions about technology.
TSP2	Our end-user help desk is well staffed by knowledgeable individuals.
TSP3	Our end-user help desk is easily accessible.
TSP4	Our end-user help desk is responsive to end-user requests.
Involvement facilitation (IF)	
IF1	Our end users are encouraged to try out new technologies.
IF2	Our end users are rewarded for using new technologies.
IF3	Our end users are consulted before introduction of new technology.
IF4	Our end users are involved in technology change and/or implementation.

Table 3 Operationalization of research construct: JBO

Exhaustion (EXH) - CORE	
EXH1	At work, I feel mentally exhausted.
EXH2	Everything I do at work requires a great deal of effort.
EXH3	After a day at work, I find it hard to recover my energy.
EXH4	At work, I feel physically exhausted.

EXH5	When I get up in the morning, I lack the energy to start a new day at work.
EXH6	I want to be active at work, but somehow I am unable to manage.
EXH7	When I exert myself at work, I quickly get tired.
EXH8	At the end of my working day, I feel mentally exhausted and drained.
Mental distance (MD) - CORE	
MD1	I struggle to find any enthusiasm for my work.
MD2	At work, I do not think much about what I am doing and I function on autopilot.
MD3	I feel a strong aversion towards my job.
MD4	I feel indifferent about my job.
MD5	I'm cynical about what my work means to others.
Cognitive impairment (CI) - CORE	
CI1	At work, I have trouble staying focused.
CI2	At work I struggle to think clearly.
CI3	I'm forgetful and distracted at work.
CI4	When I'm working, I have trouble concentrating.
CI5	I make mistakes in my work because I have my mind on other things.
Emotional impairment (EI) – CORE	
EI1	At work, I feel unable to control my emotions.
EI2	I do not recognize myself in the way I react emotionally at work.
EI3	During my work I become irritable when things don't go my way.
EI4	I get upset or sad at work without knowing why.
EI5	At work I may overreact unintentionally.
Psychological distress (PD) – SECONDARY	
PD1	I have trouble falling or staying asleep.
PD2	I tend to worry.
PD3	I feel tense and stressed.
PD4	I feel anxious and/or suffer from panic attacks.
PD5	Noise and crowds disturb me.
Psychosomatic complaints (PC) - SECONDARY	
PC1	I suffer from palpitations or chest pain.
PC2	I suffer from stomach and/or intestinal complaints.
PC3	I suffer from headaches.
PC4	I suffer from muscle pain, for example in the neck, shoulder or back.
PC5	I often get sick.

Table 4 Control variables

Control variables	
Age	How old are you? *Numbers of years #*
Gender	What is your gender? *Male / Female / No answer*
Education	What is the highest level of education completed? *Primary school / VMBO / MBO / HAVO / VWO/ HBO bachelor / WO bachelor/ HBO master / WO master / Phd*
Years of work experience	How many years of work experience do you have? *0-4 years/ 5-10 years/ ≥10 years*
Number of hours worked per week	How many hours do you normally work per week? *0-17 hours a week/ 18 until 35 hours a week/ 36 or more hours a week*

3.2.2. Data collection

The population of interest is the working population that works with technology on a daily basis living in the Netherlands. The sample of this study are the white-collar employees working for a municipality in the Netherlands. More than 45.000 citizens are living in this municipality and over 500 employees are working there. There are both white collar and blue-collar employees. The sample of the white-collar employees is representative for the working population that works with technology on a daily basis, because they use a computer and other technology like telcon-equipment, tablets or mobile phones often. They are therefore exposed to technostress.. The blue-collar employees maintain e.g. the public green spaces. For practical reasons, the questionnaire will only be sent electronically. Meaning, only those cases that have a work-related email address will receive an invite to fill in the questionnaire. Before sending out the questionnaire, permission was asked from the Municipal Executive. An introduction letter (see Appendix I) was added the questionnaire making sure the participants were aware that participation is on a voluntary basis and to safeguard their privacy by means of 'informed consent' (i.e. giving permission after being fully informed about the objectives of the registration and of any possible distribution of data to third parties). The first question was to agree with the statements as included in Table 5. No compensation was provided for completing the surveys. In order to achieve a high response rate, the questionnaire was sent after the summer holidays and a reminder was sent after two weeks. The open source online survey tool "Limesurvey" was used. The people that received an invite to fill in the questionnaire were able to self-complete the internet questionnaire.

Table 5 Informed consent

Informed consent
I have read the introduction letter that was added to this research and was able to ask questions to the researcher if things were unclear.
I understand that I can stop the survey. I do not need to give a reason for this.
I understand that all the information for this research is anonymously and that the information cannot be traced back to me.
I understand that the data collected is stored in a secure manner by the OU.
I give permission to use the data collected by this research for scientific research.

3.3. Data analysis

This section will elaborate on the way the collected data was analyzed. Once the questionnaire was expired, the raw data was examined. Is was checked for missing data, suspicious response patterns, and outliers. The problem of non-normal data is much less severe with PLS-SEM. Descriptive analysis is used to give a broader insight into the data characteristics. Also, descriptive analysis is used with respect to the response rate, number of questionnaires filled in and number of questionnaires usable for the in-depth analysis. The cleaned data was subject for the model estimation, assessing the results of both the measurement and structural model, the analysis, and interpretation of the results and drawing conclusions. In order to show relationships between variables and to understand the significance of these relationships, a statistical method called partial least squares structural equation modeling (PLS-SEM) is used. PLS-SEM is used for complex models with many associations and incorporates both observed and unobserved variables. It combines aspects of factor analysis and regression and supports both reflective and formative constructs. PLS-SEM focuses on the prediction of a specific set of hypothesized relationships that maximizes the explained variance of the dependent variable. PLS-SEM minimizes the error terms and maximizing the R^2 values of the endogenous constructs (F. Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014).

3.4. Validity, reliability and ethical aspects

3.4.1. Ethical aspects

Ethics refer to the standards of behavior that guide the conduct in relation to the rights of those who become the subject of the research (Saunders et al., 2007). The invitation to the questionnaire was guided with an introduction letter. The introduction letter, written in Dutch is included in the appendix (Appendix I). In the introduction letter it was made clear that this research complies with the Netherlands Code of Conduct for Academic Practice issued by the Association of Universities in the Netherlands, anonymity is guaranteed, participation is voluntary and based on informed consent, the data will only be used for the purpose of this research, there is the ability to early terminate the questionnaire which means the data will then not be used, the data is stored by the Open Universiteit for a period of ten years, and to turn to myself, the researcher, in case of any questions or complaints. Of course, any legislation, national and international, was taken into account.

3.4.2. Reliability and validity

Both reliability and validity are central to judgements about the quality of the quantitative research. Reliability refers to consistency and replication. This can be broken up into internal and external reliability whereas internal reliability refers to consistency during a research project and external reliability refers to whether consistent findings are produced if repeated on another occasion of replicated by a different researcher. Validity refers to right measures, analysis accuracy and whether the findings are generalizable. Validity can be further detailed in construct, internal and external validity. With construct validity is meant whether the measurements used in the research actually measure what they are intended to. Internal validity refers to the accuracy of the analysis. External validity has to do with the generalizability of the research findings. (Saunders et al., 2007).
In order to increase the reliability and validity of this research and hence the quality, several measures are taken.

In this research, internal reliability is achieved by writing notes the way the data is coded, analyzed and interpreted. In order to facilitate replication a highly structured methodology is used (Gill & Johnson, 2002). Higher reliability could be achieved by using more than one researcher. For the sake of this research it was not possible to have more than one researcher analyzing and interpreting the data. This could bear the internal reliability.

Threats to external reliability have to do with both participant and researcher error and bias. Using an internet questionnaire in which the respondent can choose when and where to complete it, means I cannot control error and bias entirely. Nevertheless, internet questionnaires increase the reliability of the data because most people read and respond to their own emails. Another factor that contributes to the reliability is that with internet questionnaires the likelihood of contamination or distortion of respondent's answer is low. Because the questionnaires can be submitted anonymously and individually, socially desirable answers are avoided. Because the respondent self-selects from responses predetermined in the questionnaire, the data collected is considered factual data and can't be altered.

Construct validity can be achieved when using triangulation. Meaning, using different perspectives, research methods and sources. Since this study was a mono method quantitative study, only one source of data and method of collection was used. This might impact the validity and credibility of the

research findings. Another way to increase the construct validity is to create a chain of evidence. This is done via the detailed setup of this study, which can be read about in this paper.

Internal validity is established because questions show statistically to be associated with an analytical factor and outcome. Another way of increasing the internal validity is by creating a framework based on theories (chapter 2) and trying to falsify assumed relations. A fact that might impact the validity, credibility and authenticity is that the results are not checked with a sample of the respondents due to time constraints. Control variables are incorporated to ensure the validity of the data.

3.4.3. Testing for reliability and validity

Before one can evaluate the relationships in the structural model, first the tests for validity and reliability of the measurement constructs need to be satisfactory. There are different tests to conduct for formative and reflective constructs. As well as for the evaluation of the structural model. Firstly, the reflective constructs can be tested for internal consistency (composite reliability), indicator reliability, convergent validity (average variance extracted (AVE)), and discriminant validity. This should be done for both the lower order model as the higher order model. Secondly, the formative constructs can be measured for convergent validity, collinearity among indicators, and significance and relevance of outer weights. Lastly, the structural model can be evaluated by using coefficients of determination (R^2), predictive relevance (Q^2), size and significance of path coefficients, f^2 effect sizes and q^2 effect sizes (Hair Jr, Hult, Ringle, & Sarstedt, 2016). The next chapter will outline which measures actually took place and their outcomes and how to interpreted them.

4. Results

In this chapter the following elements are addressed. More information about the actual research that is carried out is shared. When deviated from the plan as presented in chapter 3, this is mentioned. The results, or produced data from this research are shared, either in this chapter or in the appendices.

4.1. The data

The steps during the actual research are carried out as described in chapter 3. Just before the questionnaire was ready to be sent out, an updated list containing the e-mail addresses was received from the IT department. The list contained 499 e-mail addresses including mine, so in total 498 people were able to fill in the questionnaire. After two weeks, there were 236 (47%) responses received. These responses were examined for missing data, suspicious response patterns, outliers and data distribution concerns. With respect to the latter, PLS doesn't require normal distribution of predictors. After the examination, 182 cases (37%) remained for the next step the analysis in Smart-PLS, the software used for the PLS-SEM algorithm. In terms of demographics, the average age was 49, 23% of the respondents were 60 years or older, more details on age are provided in figure 8. About 57% of the respondents were male and 43% were female. More than 63% had a bachelor's degree and above. In terms of work experience, more than 85% had an experience of 10 years and more, only 7% had an experience of 4 years or less. With respect to worked hours a week, less than 4% worked less than 0.5 FTE, equals 18 hours a week, 34% worked more than 0.5 FTE and less than 1 FTE, equals 36 hours a week, 62% worked 36 hours a week or more.

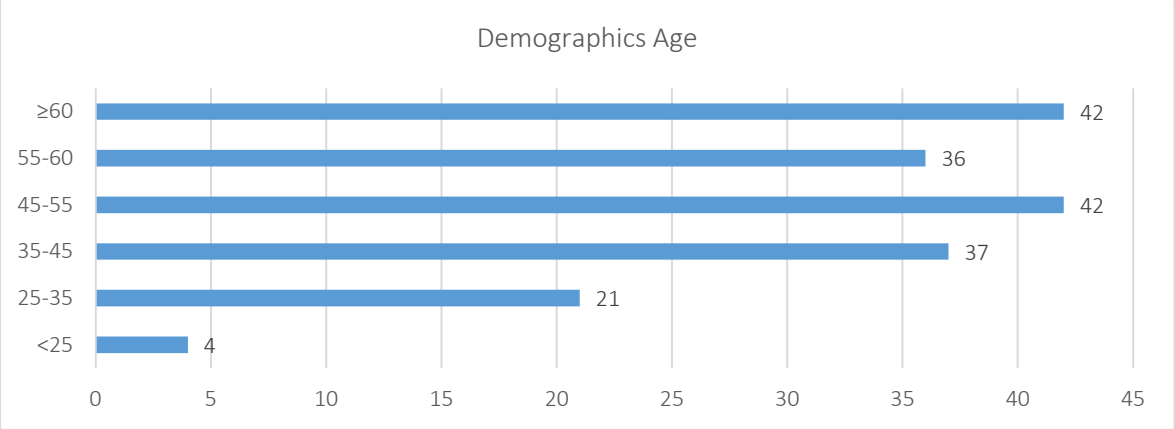

Figure 3 Demographics age

4.2. Model building

Since there is some debate on how to measure the construct JBO properly, as mentioned in section 3.2.1., I decided to test different models. According to W. B. Schaufeli et al. (2019), the model consists of four core aspects of JBO and two secondary aspects of JBO. In model 1, I tested the model including all second order constructs. In model 2, only the core aspects of JBO were included. In model 3, the model was tested for each of the core aspects of JBO separately. Hence the core aspect acted as a first order construct like LF, IF and TSP. Because there are four core aspects, these models are referred to as 3a., 3b., 3c., and 3d. In addition, I decided to test the model for a different set of demographics, in order to figure out if the model acts differently based on these demographics. This could indicate potential directions for future research. I tested model 1 for male only (4a.), bachelor and above (4b.), and work experience ≥ 10 years (4c.). This was randomly chosen. The only restriction was that the amount of cases remained big enough for the analysis. With respect to model 4, I again included all second order constructs, like model 1. Hence the models are as follows, see table 6.

Table 6 Model building

#	Model name	# Cases	First order constructs	Second order constructs
1.	All	182	TS LF, IF, TSP JBO	CO, IN, INS, OV, UN - CI, EI, EXH, MD, PC, PD
2.	Core only	182	TS LF, IF, TSP JBO	CO, IN, INS, OV, UN - CI, EI, EXH, MD
3a.	EXH	182	TS LF, IF, TSP EXH	CO, IN, INS, OV, UN - -
3b.	MD	182	TS LF, IF, TSP MD	CO, IN, INS, OV, UN - -
3c.	CI	182	TS LF, IF, TSP CI	CO, IN, INS, OV, UN - -
3d.	EI	182	TS LF, IF, TSP EI	CO, IN, INS, OV, UN - -

#	Model name	# Cases	First order constructs	Second order constructs
4a.	Male	103	TS LF, IF, TSP JBO	CO, IN, INS, OV, UN - CI, EI, EXH, MD, PC, PD
4b.	Bachelor and above	116	TS LF, IF, TSP JBO	CO, IN, INS, OV, UN - CI, EI, EXH, MD, PC, PD
4c.	Work experience ≥ 10 years	155	TS LF, IF, TSP JBO	CO, IN, INS, OV, UN - CI, EI, EXH, MD, PC, PD

4.3. Analysis for model 1

With respect to the parameters regarding the moderator variables, "standardize indicator value before multiplication" was selected, because it transforms all items by subtracting the mean and dividing by the standard deviation, which is most often used.

4.3.1. Assessing the measurement model LOC

In using the PLS-SEM technique, the quality of the measurement model is assessed before the structural model is assessed. This first assessment involves checking if the model converged, meaning in less iterations than the value of the parameter "stop criterion changes", and ascertaining the indicator reliability, internal consistency reliability, convergent validity and discriminant validity of the constructs. According to Hair Jr et al. (2016), the outer loadings should be 0,708 or above to ensure indicator reliability. However, in case indicators' outer loadings are between 0,40 and 0,708 the indicator should be removed from the data set, if the removal increases the composite reliability or average variance extracted (AVE) above their threshold of 0,7 respectively 0,5. A measure of internal consistency reliability is composite reliability (threshold 0,7) and the measure of convergent validity is AVE (threshold 0,5) (Hair Jr et al., 2016). To check for discriminant validity, the cross loadings were examined.

Above examination is first executed on the Lower-Order Component (LOC) model. The model converged after eight iterations. PC1 was removed because after removal the AVE score of psychosomatic complaints (J_PC) turned above the threshold of 0,5. The results of the assessment of the measurement model are in table 7.

Table 7 Assessing the measurement model LOC - Model 1

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
JBO_CI	CI1	0,7969	0,6350	0,8903	0,6195	Yes
	CI2	0,8230	0,6773			
	CI3	0,7319	0,5357			
	CI4	0,8321	0,6924			
	CI5	0,7463	0,5570			
JBO_EI	EI1	0,7513	0,5645	0,8844	0,6052	Yes
	EI2	0,7887	0,6220			
	EI3	0,7751	0,6008			
	EI4	0,7459	0,5564			
	EI5	0,8260	0,6823			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
JBO_EXH	EXH1	0,8266	0,6833	0,9189	0,5871	Yes
	EXH2	0,6680	0,4462			
	EXH3	0,7901	0,6243			
	EXH4	0,7875	0,6202			
	EXH5	0,7886	0,6219			
	EXH6	0,7400	0,5476			
	EXH7	0,7221	0,5214			
	EXH8	0,7951	0,6322			
JBO_MD	MD1	0,8650	0,7482	0,8801	0,5966	Yes
	MD2	0,6766	0,4578			
	MD3	0,8203	0,6729			
	MD4	0,7565	0,5723			
	MD5	0,7293	0,5319			
JBO_PC	PC2	0,7655	0,5860	0,8197	0,5327	Yes
	PC3	0,6948	0,4827			
	PC4	0,7696	0,5923			
	PC5	0,6854	0,4698			
JBO_PD	PD1	0,7261	0,5272	0,8593	0,5519	Yes
	PD2	0,8029	0,6446			
	PD3	0,8279	0,6854			
	PD4	0,6504	0,4230			
	PD5	0,6922	0,4791			
IF	IF1	0,8215	0,6749	0,8790	0,6460	Yes
	IF2	0,8793	0,7732			
	IF3	0,7626	0,5816			
	IF4	0,7445	0,5543			
LF	LF1	0,8887	0,7898	0,8410	0,5232	Yes
	LF2	0,8383	0,7027			
	LF3	0,5152	0,2654			
	LF4	0,6747	0,4552			
	LF5	0,6345	0,4026			
TSP	TSP1	0,6811	0,4639	0,8072	0,5289	Yes
	TSP2	0,6681	0,4464			
	TSP3	0,4656	0,2168			
	TSP4	0,9942	0,9884			
TS_CO	CO1	0,7639	0,5835	0,9075	0,6642	Yes
	CO2	0,8885	0,7894			
	CO3	0,8121	0,6595			
	CO4	0,7048	0,4967			
	CO5	0,8900	0,7921			
TS_IN	IN1	0,7263	0,5275	0,8791	0,6459	Yes
	IN2	0,8437	0,7118			
	IN3	0,8102	0,6564			
	IN4	0,8295	0,6881			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
TS_INS	INS1	0,8861	0,7852	0,8917	0,6252	Yes
	INS2	0,8274	0,6846			
	INS3	0,8384	0,7029			
	INS4	0,7387	0,5457			
	INS5	0,6383	0,4074			
TS_OV	OV1	0,8445	0,7132	0,9167	0,6883	Yes
	OV2	0,8624	0,7437			
	OV3	0,8534	0,7283			
	OV4	0,7295	0,5322			
	OV5	0,8510	0,7242			
TS_UN	UN1	0,7471	0,5582	0,8957	0,6831	Yes
	UN2	0,8919	0,7955			
	UN3	0,8387	0,7034			
	UN4	0,8216	0,6750			

4.3.2. Assessing the measurement model HOC

To assess the Higher-Order Component (HOC) model, the latent variable scores (LVS) of both TS and JBO were extracted and saved in the data file. The new data file was now used to again assess the measurement model as recommended by Hair Jr et al. (2016).

The model converged after two iterations. Four items were removed from the data set: IF1, LF3, LF5, and LF4 by using the same reasoning as shared in section 4.2.1. The results of the assessment are shown in table 8.

Table 8 Assessing the measurement model HOC - Model 1

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF2	0,9168	0,8405	0,8586	0,6711	Yes
	IF3	0,7841	0,6148			
	IF4	0,7469	0,5579			
LF	LF1	0,9156	0,8383	0,9081	0,8317	Yes
	LF2	0,9083	0,8250			
TSP	TSP1	0,6811	0,4639	0,8072	0,5289	Yes
	TSP2	0,6681	0,4464			
	TSP3	0,4656	0,2168			
	TSP4	0,9942	0,9884			
TS*IF	TS*IF2	0,9237	0,8532	0,7984	0,5787	Yes
	TS*IF3	0,7568	0,5727			
	TS*IF4	0,5567	0,3099			
TS*LF	TS*LF1	0,8742	0,7642	0,9008	0,8197	Yes
	TS*LF2	0,9355	0,8752			
TS*TSP	TS*TSP1	0,9416	0,8866	0,9065	0,7118	Yes
	TS*TSP2	0,9436	0,8904			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
	TS*TSP3	0,6696	0,4484			
	TS*TSP4	0,7887	0,6220			
TS	TS	1,0000	1,0000	1,0000	1,0000	Yes
JBO	JBO	1,0000	1,0000	1,0000	1,0000	

4.3.3. Assessing the structural model

The assessment of the structural model contains of the following steps (Hair Jr et al., 2016).

1. Assess structural model for collinearity issues
2. Assess the significance and relevance of the structural model relationships
3. Assess the level of R^2
4. Assess the effect sizes f^2
5. Assess the predictive relevance Q^2 and the q^2 effect sizes

First of all, there is no need to assess collinearity since there is only one predictor construct: TS. The same counts for assessing step 4 and partially step 5, assessing the effect sizes f^2 and q^2, since TS is the only exogenous construct. Results of the other assessments are shown in table 9. The path coefficient between TS and JBO is 0,48 and statistically significant at the 0.01 level. The path coefficient of LF on JBO was close to 0 (-0,13; $p < 0.10$), indicating that LF has little influence on the relationship TS and JBO. The influence is as expected, namely negative, indicating that the strength of the relationship between TS and JBO is lowered because of LF. The other moderating relationships, TSP and IF, were not significant. The R^2 value of 0,30 can be described as weak: 30% of the variance of JBO is explained by TS. The predictive relevance Q^2 of JBO has a value of 0,27 (= above 0), which implies that the model has predictive relevance for this construct.

Table 9 Assessing the structural model - Model 1

	Path coefficient	T values	Significance	f^2 Effect size	q^2 Effect size
TS	0,4782	6,8295	***	N.a.	N.a.
TS*IF	-0,0751	0,6116	No	N.a.	N.a.
TS*LF	-0,1265	1,7457	*	N.a.	N.a.
TS*TSP	0,1345	1,3181	No	N.a.	N.a.

**** Significance (1%): critical level > 2.57*
*** Significance (5%): critical level > 1.96*
** Significance (10%): critical level > 1.65*

4.4. Analysis for model 2

All the steps and reasoning used in assessing the model, are equal to the ones as described in section 4.3. The LOC model converged after eight iterations. None of the indicators were removed. The HOC model converged after two iterations. The indicators LF3, LF4 and LF5 were removed. The results of the assessment of the measurement models of both the LOC and HOC model are included in Appendix II. The results of the structural model are as follows, see table 10. Compared to model 1, the moderating effect of LF increased very slightly: the path coefficient is -0,15 ($p < 0.05$). The R^2 value of 0,32 can be described as weak. The predictive relevance Q^2 of JBO has a value of 0,34. Again, IF and TSP had no significant moderating effect on the relationship between TS and JBO.

Table 10 Assessing the structural model - Model 2

	Path coefficient	T values	Significance	f^2 Effect size	q^2 Effect size
TS	0,4796	7,0383	***	N.a.	N.a.
TS*IF	-0,1050	0,7390	No	N.a.	N.a.
TS*LF	-0,1479	2,0229	**	N.a.	N.a.
TS*TSP	0,1502	1,3736	No	N.a.	N.a.

*** Significance (1%): critical level > 2.57*

** Significance (5%): critical level > 1.96*

* Significance (10%): critical level > 1.65*

4.5. Analysis for model 3

All the steps and reasoning used in assessing the model are equal to the ones as described in section 4.3. The results of the assessment of the measurement model of both the LOC and HOC model are included in Appendix III. The results of the structural models are as follows, see table 11.

Table 11 Assessing Model 3 core components JBO

	EXH (3a.)		MD (3b.)		CI (3c.)		EI (3d.)	
# Iterations LOC	9		12		10		10	
Indicators removed	None		None		IF4, LF3		None	
# Iterations HOC	8		7		7		6	
Additional indicators removed	LF3, LF4, LF5		IF1, LF3, LF5		LF5, LF4		LF3, LF5, LF4	
R / Q^2	0,2629	0,1512	0,1275	0,0680	0,2778	0,1716	0,2592	0,1483
Path coefficient/ t-value (sign.)								
TS	0,4606	6,7585 (***)	0,2303	2,4242 (**)	0,3657	4,4976 (***)	0,4453	6,5071 (***)
TS*IF	-0,0880	1,5918 (no)	0,0236	0,1836 (no)	0,1842	1,2686 (no)	-0,0487	0,3557 (no)
TS*LF	-0,0673	1,3640 (no)	-0,1867	2,4707 (**)	-0,2450	2,9157 (***)	-0,1624	2,0528 (**)
TS*TSP	0,1512	1,8810 (no)	-0,0359	0,3189 (no)	0,0933	1,0106 (no)	0,1067	0,7806 (no)

*** Significance (1%): critical level > 2.57*

** Significance (5%): critical level > 1.96*

* Significance (10%): critical level > 1.65*

4.6. Analysis for model 4

A filter was applied for each of the specific demographics as mentioned in section 4.2. Similar to the other models, significance refers to the significance of the construct. This test differs from multigroup analysis which allows to test if pre-defined data groups have significant differences in their group-specific parameter estimates. The results of the assessment of the measurement model of both the LOC and HOC model are included in Appendix IV. The results of the structural models are as follows, see table 12.

Table 12 Assessing Model 4 different demographics

	All resp. (1.)		Male (4a.)		Bachelor and above (4b.)		Work experience ≥10 years (4c.)	
Number of cases	182		103		116		155	
Number of iterations LOC	8		9		8		9	
Indicators removed	PC1		PC1, PC5, LF3		PC1		PC1	
Number of iterations HOC	2		2		2		2	
Additional indicators removed	IF1, LF3, LF5, LF4		LF5, LF4, IF2		LF3, LF4, IF1		LF3, LF4, LF5	
R / Q^2	0,2979	0,2670	0,3819	0,4025	0,3640	0,3831	0,3250	0,3173
Path coefficient/ t-value (sign.)								
TS	0,4782	6,8295 (***)	0,4493	5,5464 (***)	0,5667	6,0042 (***)	0,5025	6,7786 (***)
TS*IF	-0,0751	0,6116 (no)	0,1751	1,1547 (no)	-0,1056	0,7956 (no)	0,1270	0,9656 (no)
TS*LF	-0,1265	1,7457 (*)	-0,2532	2,5892 (***)	-0,0899	0,7196 (no)	-0,1893	2,4639 (**)
TS*TSP	0,1345	1,3181 (no)	0,1416	0,8113 (no)	0,1102	0,7868 (no)	0,0983	0,9720 (no)

5. Discussion, conclusions and recommendations

This section will elaborate on the meaning of the findings. It will also elaborate on how the findings can be applied. The conclusions are discussed in order of most to least important. In addition, the results are compared to other studies. Similarities or differences are mentioned, and explained. In case of no explanation, this is documented and further research is suggested. Any limitations of the research are deepened.

5.1. Discussion – reflection

The primary objective of this research is to investigate whether situational organizational factors have a significant influence on the relationship between TS and JBO. Additionally, I investigated the relationship between TS and the core aspects of JBO together, each of the four core aspects separately, and JBO as a whole but for different demographics. And, how the situational organizational factors impact these relationships.

Firstly, in all cases (sections 4.3 and 4.6 respectively model 1 and 4), I found a significant relationship between TS and JBO. Meaning the first hypothesis (H1) is supported and in line with prior studies (Jackson et al., 1986; Ragu-Nathan et al., 2008). Demographics (section 4.5) do not make a difference with respect to the significance of this relationship ($p < 0.01$). Although the path coefficient is the highest for the group "bachelor and above". This latter is odd, because as mentioned by Tarafdar et al. (2015), greater levels of education are associated with greater perceived ease of use with respect to information systems (Agarwal & Prasad, 1999; Igbaria & Parasuraman, 1989), hence I would have expected a path coefficient that is not significant. Although I did not expect age to have an effect on

TS, the relatively high average age might be the reason why highly-educated people experience TS. Namely, like mentioned by Ragu-Nathan et al. (2008), age negatively influences perceived ease of ICT use (Burton-Jones & Hubona, 2005).

In this research the research question is as follows: *Do situational organizational factors play a significant role in influencing the effect of technostress creators on job burnout?* Based on the results, one can conclude that this does hold for LF: the path coefficient of -0,13 is significant ($p < 0.10$). Based on demographics this impact differs. For the group "male only", the influence of LF on the relationship between TS and JBO is quite big. Namely, the path coefficient is -0,25 ($p < 0.01$). For the group that has more than 10 years work experience the path coefficient is -0,19 ($p < 0.05$). And, for the group that has a bachelor degree or above, LF has no influence. This latter is quite interesting, given that highly-educated people seem to experience more technostress but none of the moderators helps with it. Meaning the tools we have to help them, don't seem to work. The second hypothesis (H2) is supported too, although not for highly-educated people, and again matches with other studies (Clark & Kalin, 1996; Ragu-Nathan et al., 2008; Tarafdar et al., 2015). The other situational organizational factors, TSP and IF, had no significant moderating impact on the relationship between TS and JBO. This contradicts prior studies (Ahmad, Amin, & Ismail, 2014; Nelson & Kletke, 1990; Parsons et al., 1991; Tarafdar et al., 2011). Hypotheses three (H3) and four (H4) turned out to be false. There is no theoretical explanation why this is the case. It might have to do with the limitations of this study (section 5.4). For example, it might be that elder people are less interested to be involved in technology changes, because "they might not care anymore", or "feel fatigued because of the many changes". Because our sample case has a quite high average age, involvement facilitation might by of no influence. However, this is subjective, since I did not found any theoretical justification.

Secondly, when not focusing on the JBO concept as a whole, but only taking into account the core aspects (section 4.4, model 2) and each core aspect separately (section 4.5, model 3), the relationship between TS and the endogenous construct remained significant ($p < 0.01$), although less strong with respect to MD ($p < 0.05$)). LF had a significant impact on the relationship between TS and JBO core-only, MD and EI ($p < 0.05$), the strongest impact on CI ($p < 0.01$) and no influence on EXH, which is considered the most important core aspects of JBO (W. B. Schaufeli et al., 2019). None of the other situational organizational factors had a significant role in influencing the relationship between TS and the endogenous construct. The fact that only LF, and not IF and TSP have a significant impact, and LF not even on EXH, the main aspect of JBO, cannot be explained from theoretical perspective. This might have to do because of the limitations of this study. Hence, this gives directions for further research (section 5.4).

5.2. Conclusion

The findings contribute the body of knowledge since as it brings theoretical understanding of the moderating influence of situational organizational factors on the relationship between TS and JBO. None of the past studies have studied this to the best of my knowledge. The main findings are that the relationship between TS and JBO was significant and LF has a significant impact on this relationship. Although this influence can change or even be non-existing for different demographics. It gives directions for further research, since the findings do not correspond with the expected outcomes. Namely, IF and TSP did not have a significant impact on the relationship between TS and JBO, although this was expected. This might have to do with the limitations of the study (sections 5.4).

5.3. Recommendations for practice

Like explained in chapter 1, from a managerial perspective, it is interesting to explore the effect of situational organization factors, in the field of TS called TSI, that might impact the relationship between TS and JBO, because of the negative effects that JBO has on the organization. Managers can get insights in the most important aspects of successfully nullifying the effects of TS. Based on the results, LF is interesting to look into. This does not count for all people, therefore managers should make a wise decision, based on the demographic info of the employees, whether or not to invest in LF.

5.4. Recommendations for further research

In terms of limitation to this study, firstly, it was conducted in a limited setting on one organization in the governmental, non-profit domain. Meaning, the findings may not be generalized across other sectors. Further research can show the robustness of findings across different domains, like profit firms, other governmental firms, and so forth. Secondly, future research also needs to consider longitudinal studies that measure TS and JBO over time and the impact of situational organization factors. Thirdly, the sample feature work experience was decisive. Over 85% had a work experience of 10 years and more. Their perceptions might be different from people with less work experience. Therefore the findings could not be generalized to employees with less than 10 years' work experience. Future research should consider employees with less than 10 years' work experience that were underrepresented in this study. Fourthly, the average age is considered to be quite high. This might impact the results.

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APPENDIX

Appendix 1: Introduction letter (in Dutch)

Beste collega,

Ik vraag je om mee te doen aan een wetenschappelijk onderzoek. Meedoen is vrijwillig. Om je mee te laten doen, heb ik jouw toestemming nodig. Als je de online vragenlijst invult, wordt om jouw toestemming gevraagd. Voordat je beslist of je wilt meedoen aan dit onderzoek, krijgt je uitleg over wat het onderzoek inhoudt. Lees deze informatie rustig door en vraag de onderzoeker uitleg als je vragen hebt. Indien nodig kan ik jouw vragen doorsturen naar de hoofdonderzoeker. Dit onderzoek is verstuurd aan eenieder met een emailadres werkzaam bij de gemeente Kerkrade. Tevens is een link op de intranetsite geplaatst waarmee je naar de online vragenlijst kunt navigeren.

Het onderzoek

Dit onderzoek wordt uitgevoerd in het kader van een afstudeeropdracht van de masteropleiding BPMIT aan de Open Universiteit. Het onderwerp is gekozen is samenspraak met de hoofdonderzoeker. Goedkeuring is verleend door een directielid van de gemeente Kerkrade.

De onlinevragenlijst is opgebouwd uit een drietal hoofdonderwerpen (techno-stress: stress veroorzaakt door continue ontwikkelingen in ICT, job burn-out, organisatie-omgevingsfactoren) met elk drie of meer sub-onderwerpen. Deze laatste zijn opgebouwd uit stellingen. Je wordt per stelling gevraagd in welke mate je het met de stelling eens bent. Als je twijfelt tussen twee of meer antwoorden, geef het antwoord wat het eerst in je op komt of het meest in de buurt ligt. Naast de drie hoofdonderwerpen worden enkele controlevragen gesteld. Geen van deze zijn tot de persoon te herleiden.

Het onderzoek is niet bedoeld om aan te tonen in welke mate een van de drie hoofdonderwerpen aanwezig is. Het is bedoeld om aan te tonen welke verbanden significant zijn en in welke mate deze beïnvloed kunnen worden. Dat het onderzoek uitgevoerd is bij de gemeente Kerkrade is niet uit de afstudeerscriptie te herleiden.

Anoniem

Er worden geen tot de persoon te herleiden gegevens gevraagd. Als je de vragenlijst invult op een computer van de gemeente Kerkrade is ook het IP-adres niet tot de persoon te herleiden. De vragenlijst is derhalve anoniem en de AVG is dus niet van toepassing. Dit is getoetst met de gegevensfunctionaris van de gemeente Kerkrade. De verzamelde gegevens worden gedurende 10 jaar op een veilige wijze door de Open Universiteit bewaard.

De deelname

Jouw antwoorden worden alleen meegenomen in het onderzoek, als de vragenlijst volledig doorlopen is. Je hebt de mogelijkheid de vragenlijst tussentijds op te slaan en later af te ronden. Tevens kun je terugbladeren naar een eerder ingevulde pagina, als je jouw antwoord terug wilt zien of mogelijk wilt wijzigen. Je beslist zelf of je meedoet aan het onderzoek. Als je niet wilt deelnemen heeft dat geen nadelige gevolgen voor jou. Als je wel deelneemt, heb je altijd de gelegenheid het onderzoek

vroegtijdig te beëindigen. Jouw resultaten worden dan niet meegenomen. Je hoeft niet te zeggen waarom je niet deelneemt of stopt. Er zijn geen voor- en/of nadelen verbonden aan jouw deelname.

Einde van het onderzoek

Je wordt geïnformeerd als het niet langer mogelijk is de online vragenlijst in te vullen. De verzamelde gegevens worden verwerkt in de afstudeerscriptie. Zodra deze definitief is, kun je een (online)-kopie bij mij opvragen.

Meer informatie over jouw rechten bij verwerking van gegevens en ethisch onderzoek

Voor algemene informatie over jouw rechten bij verwerking van uw persoonsgegevens kunt u de website van de Autoriteit Persoonsgegevens raadplegen. De privacy disclaimer van de Open Universiteit vindt u via www.ou.nl/privacy. De principes van goed wetenschappelijk onderzoek zijn gewaarborgd, zie ook “De Nederlandse Gedragscode Wetenschapsbeoefening”.

Heb jij vragen?

Bij vragen of een klacht kun je contact opnemen met Sanne Beelen (sanne.beelen@kerkrade.nl).

Bij voorbaat dank voor jouw deelname.

Appendix II: Results assessment measurement model LOC and HOC model 2

Table 13 Assessing measurement model LOC: model 2

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
JBO_CI	CI1	0,7968	0,6349	0,8903	0,6194	Yes
	CI2	0,8259	0,6821			
	CI3	0,7339	0,5386			
	CI4	0,8276	0,6849			
	CI5	0,7462	0,5568			
JBO_EI	EI1	0,7493	0,5615	0,8844	0,6052	Yes
	EI2	0,7892	0,6228			
	EI3	0,7732	0,5978			
	EI4	0,7480	0,5595			
	EI5	0,8273	0,6844			
JBO_EXH	EXH1	0,8275	0,6848	0,9189	0,5872	Yes
	EXH2	0,6658	0,4433			
	EXH3	0,7913	0,6262			
	EXH4	0,7896	0,6235			
	EXH5	0,7871	0,6195			
	EXH6	0,7407	0,5486			
	EXH7	0,7211	0,5200			
	EXH8	0,7946	0,6314			
JBO_MD	MD1	0,8615	0,7422	0,8803	0,5970	Yes
	MD2	0,6760	0,4570			
	MD3	0,8168	0,6672			
	MD4	0,7633	0,5826			
	MD5	0,7323	0,5363			
IF	IF1	0,8401	0,7058	0,8772	0,6423	Yes
	IF2	0,8741	0,7641			
	IF3	0,7522	0,5658			
	IF4	0,7302	0,5332			
LF	LF1	0,9011	0,8120	0,8396	0,5212	Yes
	LF2	0,8338	0,6952			
	LF3	0,5139	0,2641			
	LF4	0,6734	0,4535			
	LF5	0,6175	0,3813			
TSP	TSP1	0,7420	0,5506	0,8493	0,5943	Yes
	TSP2	0,7356	0,5411			
	TSP3	0,5625	0,3164			
	TSP4	0,9843	0,9688			
TS_CO	CO1	0,7640	0,5837	0,9075	0,6642	Yes
	CO2	0,8885	0,7894			
	CO3	0,8122	0,6597			
	CO4	0,7046	0,4965			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
	CO5	0,8900	0,7921			
TS_IN	IN1	0,7265	0,5278	0,8160	0,6459	Yes
	IN2	0,8435	0,7115			
	IN3	0,8100	0,6561			
	IN4	0,8296	0,6882			
TS_INS	INS1	0,8860	0,7850	0,8471	0,6252	Yes
	INS2	0,8274	0,6846			
	INS3	0,8382	0,7026			
	INS4	0,7389	0,5460			
	INS5	0,6385	0,4077			
TS_OV	OV1	0,8447	0,7135	0,9167	0,6883	Yes
	OV2	0,8625	0,7439			
	OV3	0,8534	0,7283			
	OV4	0,7295	0,5322			
	OV5	0,8508	0,7239			
TS_UN	UN1	0,7474	0,5586	0,8957	0,6831	Yes
	UN2	0,8920	0,7957			
	UN3	0,8388	0,7036			
	UN4	0,8213	0,6745			

Table 14 Assessing measurement model HOC: model 2

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF1	0,8401	0,7058	0,8772	0,6423	Yes
	IF2	0,8741	0,7641			
	IF3	0,7522	0,5658			
	IF4	0,7302	0,5332			
LF	LF1	0,9269	0,8591	0,9075	0,8307	Yes
	LF2	0,8957	0,8023			
TSP	TSP1	0,742	0,5506	0,8493	0,5943	Yes
	TSP2	0,7356	0,5411			
	TSP3	0,5625	0,3164			
	TSP4	0,9843	0,9688			
TS*IF	TS*IF1	0,4753	0,2259	0,7990	0,5103	Yes
	TS*IF2	0,8479	0,7189			
	TS*IF3	0,8322	0,6926			
	TS*IF4	0,6354	0,4037			
TS*LF	TS*LF1	0,8739	0,7637	0,9009	0,8198	Yes
	TS*LF2	0,9359	0,8759			
TS*TSP	TS*TSP1	0,9503	0,9031	0,9027	0,7037	Yes
	TS*TSP2	0,9496	0,9017			
	TS*TSP3	0,6498	0,4222			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
	TS*TSP4	0,7665	0,5875			
TS	TS	1,0000	1,0000	1,0000	1,0000	Yes
JBO	JBO	1,0000	1,0000	1,0000	1,0000	

Appendix III: Results assessment measurement model LOC and HOC model 3

Table 15 Assessing measurement model LOC: EXH

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
JBO_EXH	EXH1	0,8308	0,6902	0,9188	0,5870	Yes
	EXH2	0,6633	0,4400			
	EXH3	0,7966	0,6346			
	EXH4	0,7987	0,6379			
	EXH5	0,7749	0,6005			
	EXH6	0,7430	0,5520			
	EXH7	0,7227	0,5223			
	EXH8	0,7863	0,6183			
IF	IF1	0,8122	0,6597	0,8856	0,6596	Yes
	IF2	0,8568	0,7341			
	IF3	0,8014	0,6422			
	IF4	0,7763	0,6026			
LF	LF1	0,9138	0,8350	0,8283	0,5053	Yes
	LF2	0,8334	0,6946			
	LF3	0,4449	0,1979			
	LF4	0,6612	0,4372			
	LF5	0,6013	0,3616			
TSP	TSP1	0,7023	0,4932	0,8584	0,6066	Yes
	TSP2	0,6959	0,4843			
	TSP3	0,7439	0,5534			
	TSP4	0,9464	0,8957			
TS_CO	CO1	0,7640	0,5837	0,9075	0,6642	Yes
	CO2	0,8885	0,7894			
	CO3	0,8121	0,6595			
	CO4	0,7046	0,4965			
	CO5	0,8900	0,7921			
TS_IN	IN1	0,7266	0,5279	0,8791	0,6459	Yes
	IN2	0,8435	0,7115			
	IN3	0,8102	0,6564			
	IN4	0,8294	0,6879			
TS_INS	INS1	0,8860	0,7850	0,8917	0,6252	Yes
	INS2	0,8273	0,6844			
	INS3	0,8381	0,7024			
	INS4	0,7391	0,5463			
	INS5	0,6387	0,4079			
TS_OV	OV1	0,8446	0,7133	0,9167	0,6883	Yes
	OV2	0,8625	0,7439			
	OV3	0,8534	0,7283			
	OV4	0,7294	0,5320			
	OV5	0,8509	0,7240			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
TS_UN	UN1	0,7477	0,5591	0,8957	0,6831	Yes
	UN2	0,8918	0,7953			
	UN3	0,8388	0,7036			
	UN4	0,8212	0,6744			

Table 16 Assessing measurement model HOC: EXH

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF1	0,6770	0,4583	0,8857	0,6598	Yes
	IF2	0,9395	0,8827			
	IF3	0,7726	0,5969			
	IF4	0,6155	0,3788			
LF	LF1	0,9357	0,8755	0,9065	0,8291	Yes
	LF2	0,8847	0,7827			
TSP	TSP1	0,7048	0,4967	0,8596	0,6088	Yes
	TSP2	0,6979	0,4871			
	TSP3	0,7486	0,5604			
	TSP4	0,9440	0,8911			
TS*IF	TS*IF1	0,6770	0,4583	0,8428	0,5792	Yes
	TS*IF2	0,9395	0,8827			
	TS*IF3	0,7726	0,5969			
	TS*IF4	0,6155	0,3788			
TS*LF	TS*LF1	0,8596	0,7389	0,8988	0,8165	Yes
	TS*LF2	0,9456	0,8942			
TS*TSP	TS*TSP1	0,9487	0,9000	0,9041	0,7065	Yes
	TS*TSP2	0,9405	0,8845			
	TS*TSP3	0,6516	0,4246			
	TS*TSP4	0,7854	0,6169			
TS	TS	1,0000	1,0000	1,0000	1,0000	Yes
JBO_EXH	EXH1	0,8288	0,6869	0,9188	0,5868	Yes
	EXH2	0,6803	0,4628			
	EXH3	0,7920	0,6273			
	EXH4	0,8002	0,6403			
	EXH5	0,7744	0,5997			
	EXH6	0,7363	0,5421			
	EXH7	0,7151	0,5114			
	EXH8	0,7896	0,6235			

Table 17 Assessing measurement model LOC: MD

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
JBO_MD	MD1	0,8247	0,6801	0,8770	0,5898	Yes
	MD2	0,6342	0,4022			
	MD3	0,7854	0,6169			
	MD4	0,7648	0,5849			
	MD5	0,8155	0,6650			
IF	IF1	0,8358	0,6986	0,8840	0,6563	Yes
	IF2	0,8524	0,7266			
	IF3	0,7865	0,6186			
	IF4	0,7626	0,5816			
LF	LF1	0,9003	0,8105	0,8355	0,5153	Yes
	LF2	0,8470	0,7174			
	LF3	0,5282	0,2790			
	LF4	0,6838	0,4676			
	LF5	0,5494	0,3018			
TSP	TSP1	0,9609	0,9233	0,8850	0,6644	Yes
	TSP2	0,8798	0,7740			
	TSP3	0,5920	0,3505			
	TSP4	0,7809	0,6098			
TS_CO	CO1	0,7638	0,5834	0,9075	0,6643	Yes
	CO2	0,8885	0,7894			
	CO3	0,8117	0,6589			
	CO4	0,7052	0,4973			
	CO5	0,8902	0,7925			
TS_IN	IN1	0,7257	0,5266	0,8791	0,6459	Yes
	IN2	0,8439	0,7122			
	IN3	0,8109	0,6576			
	IN4	0,8291	0,6874			
TS_INS	INS1	0,8859	0,7848	0,8918	0,6252	Yes
	INS2	0,8271	0,6841			
	INS3	0,8378	0,7019			
	INS4	0,7396	0,5470			
	INS5	0,6388	0,4081			
TS_OV	OV1	0,8446	0,7133	0,9167	0,6883	Yes
	OV2	0,8623	0,7436			
	OV3	0,8535	0,7285			
	OV4	0,7299	0,5328			
	OV5	0,8507	0,7237			
TS_UN	UN1	0,7476	0,5589	0,8957	0,6831	Yes
	UN2	0,8921	0,7958			
	UN3	0,8388	0,7036			
	UN4	0,8210	0,6740			

Table 18 Assessing measurement model HOC: MD

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF2	0,8962	0,8032	0,8671	0,6860	Yes
	IF3	0,8154	0,6649			
	IF4	0,7680	0,5898			
LF	LF1	0,9152	0,8376	0,8583	0,6729	Yes
	LF2	0,8639	0,7463			
	LF4	0,6592	0,4345			
TSP	TSP1	0,9627	0,9268	0,8841	0,6627	Yes
	TSP2	0,8788	0,7723			
	TSP3	0,5894	0,3474			
	TSP4	0,7773	0,6042			
TS*IF	TS*IF2	0,7147	0,5108	0,9018	0,7565	Yes
	TS*IF3	0,9675	0,9361			
	TS*IF4	0,9071	0,8228			
TS*LF	TS*LF1	0,8848	0,7829	0,8216	0,6113	Yes
	TS*LF2	0,8266	0,6833			
	TS*LF4	0,6063	0,3676			
TS*TSP	TS*TSP1	0,7594	0,5767	0,8665	0,6214	Yes
	TS*TSP2	0,6620	0,4382			
	TS*TSP3	0,8323	0,6927			
	TS*TSP4	0,8820	0,7779			
TS	TS	1,0000	1,0000	1,0000	1,0000	Yes
JBO_MD	MD1	0,8342	0,6959	0,8781	0,5925	Yes
	MD2	0,6299	0,3968			
	MD3	0,7991	0,6386			
	MD4	0,7713	0,5949			
	MD5	0,7980	0,6368			

Table 19 Assessing measurement model LOC: CI

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
JBO_CI	MD1	0,8004	0,6406	0,8903	0,6194	Yes
	MD2	0,8133	0,6615			
	MD3	0,7258	0,5268			
	MD4	0,8429	0,7105			
	MD5	0,7468	0,5577			
IF	IF1	0,8735	0,7630	0,8147	0,6072	Yes
	IF2	0,8954	0,8017			
	IF3	0,5071	0,2572			
LF	LF1	0,9204	0,8471	0,8240	0,5543	Yes
	LF2	0,8818	0,7776			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
	LF4	0,5726	0,3279			
	LF5	0,5143	0,2645			
TSP	TSP1	0,7788	0,6065	0,8121	0,5334	Yes
	TSP2	0,7326	0,5367			
	TSP3	0,8961	0,8030			
	TSP4	0,4328	0,1873			
TS_CO	CO1	0,7640	0,5837	0,9075	0,6642	Yes
	CO2	0,8884	0,7893			
	CO3	0,8121	0,6595			
	CO4	0,7048	0,4967			
	CO5	0,8899	0,7919			
TS_IN	IN1	0,7267	0,5281	0,8791	0,6459	Yes
	IN2	0,8436	0,7117			
	IN3	0,8098	0,6558			
	IN4	0,8296	0,6882			
TS_INS	INS1	0,8860	0,7850	0,8917	0,6252	Yes
	INS2	0,8273	0,6844			
	INS3	0,8384	0,7029			
	INS4	0,7387	0,5457			
	INS5	0,6386	0,4078			
TS_OV	OV1	0,8446	0,7133	0,9167	0,6883	Yes
	OV2	0,8624	0,7437			
	OV3	0,8532	0,7280			
	OV4	0,7298	0,5326			
	OV5	0,8508	0,7239			
TS_UN	UN1	0,7471	0,5582	0,8957	0,6831	Yes
	UN2	0,8919	0,7955			
	UN3	0,8384	0,7029			
	UN4	0,8220	0,6757			

Table 20 Assessing measurement model HOC: CI

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF1	0,8765	0,7683	0,8143	0,6068	Yes
	IF2	0,8924	0,7964			
	IF3	0,5059	0,2559			
LF	LF1	0,9216	0,8493	0,9079	0,8313	Yes
	LF2	0,9018	0,8132			
TSP	TSP1	0,7879	0,6208	0,8198	0,5448	Yes
	TSP2	0,7440	0,5535			
	TSP3	0,8952	0,8014			
	TSP4	0,4512	0,2036			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
TS*IF	TS*IF1	0,9666	0,9343	0,8190	0,6106	Yes
	TS*IF2	0,5984	0,3581			
	TS*IF3	0,7344	0,5393			
TS*LF	TS*LF1	0,8544	0,7300	0,8979	0,8151	Yes
	TS*LF2	0,9488	0,9002			
TS*TSP	TS*TSP1	0,9298	0,8645	0,9125	0,7248	Yes
	TS*TSP2	0,9346	0,8735			
	TS*TSP3	0,7366	0,5426			
	TS*TSP4	0,7865	0,6186			
TS	TS	1,0000	1,0000	1,0000	1,0000	Yes
JBO_CI	CI1	0,8065	0,6504	0,8904	0,6198	Yes
	CI2	0,8180	0,6691			
	CI3	0,7225	0,5220			
	CI4	0,8335	0,6947			
	CI5	0,7503	0,5630			

Table 21 Assessing measurement model LOC: EI

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
JBO_EI	EI1	0,7363	0,5421	0,8842	0,6046	Yes
	EI2	0,7894	0,6232			
	EI3	0,7715	0,5952			
	EI4	0,7595	0,5768			
	EI5	0,8280	0,6856			
IF	IF1	0,8005	0,6408	0,8926	0,6752	Yes
	IF2	0,8144	0,6632			
	IF3	0,8445	0,7132			
	IF4	0,8267	0,6834			
LF	LF1	0,8154	0,6649	0,8601	0,5531	Yes
	LF2	0,7466	0,5574			
	LF3	0,6345	0,4026			
	LF4	0,7504	0,5631			
	LF5	0,7599	0,5774			
TSP	TSP1	0,7717	0,5955	0,8860	0,6623	Yes
	TSP2	0,8130	0,6610			
	TSP3	0,7251	0,5258			
	TSP4	0,9311	0,8669			
TS_CO	CO1	0,7634	0,5828	0,9075	0,6643	Yes
	CO2	0,8885	0,7894			
	CO3	0,8116	0,6587			
	CO4	0,7056	0,4979			
	CO5	0,8903	0,7926			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
TS_IN	IN1	0,7249	0,5255	0,8791	0,6459	Yes
	IN2	0,8440	0,7123			
	IN3	0,8114	0,6584			
	IN4	0,8292	0,6876			
TS_INS	INS1	0,8863	0,7855	0,8917	0,6251	Yes
	INS2	0,8277	0,6851			
	INS3	0,8384	0,7029			
	INS4	0,7386	0,5455			
	INS5	0,6376	0,4065			
TS_OV	OV1	0,8443	0,7128	0,9167	0,6883	Yes
	OV2	0,8622	0,7434			
	OV3	0,8536	0,7286			
	OV4	0,7297	0,5325			
	OV5	0,8511	0,7244			
TS_UN	UN1	0,7468	0,5577	0,8957	0,6831	Yes
	UN2	0,8917	0,7951			
	UN3	0,8392	0,7043			
	UN4	0,8218	0,6754			

Table 22 Assessing measurement model HOC: EI

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF1	0,8002	0,6403	0,8924	0,6746	Yes
	IF2	0,8168	0,6672			
	IF3	0,8429	0,7105			
	IF4	0,8249	0,6805			
LF	LF1	0,9092	0,8266	0,9081	0,8317	Yes
	LF2	0,9148	0,8369			
TSP	TSP1	0,7625	0,5814	0,8837	0,6574	Yes
	TSP2	0,8057	0,6492			
	TSP3	0,7241	0,5243			
	TSP4	0,9353	0,8748			
TS*IF	TS*IF1	0,7991	0,6386	0,9033	0,7006	Yes
	TS*IF2	0,8445	0,7132			
	TS*IF3	0,8925	0,7966			
	TS*IF4	0,8089	0,6543			
TS*LF	TS*LF1	0,8448	0,7137	0,8953	0,8110	Yes
	TS*LF2	0,9530	0,9082			
TS*TSP	TS*TSP1	0,9640	0,9293	0,9010	0,6999	Yes
	TS*TSP2	0,9353	0,8748			
	TS*TSP3	0,6449	0,4159			
	TS*TSP4	0,7613	0,5796			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
TS	TS	1,0000	1,0000	1,0000	1,0000	Yes
JBO_EI	EI1	0,7217	0,5209	0,8835	0,6032	Yes
	EI2	0,7900	0,6241			
	EI3	0,7899	0,6239			
	EI4	0,7513	0,5645			
	EI5	0,8264	0,6829			

Appendix IV: Results assessment measurement model LOC and HOC model 4

Table 23 Assessing measurement model LOC: Gender

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF1	0,8291	0,6874	0,8806	0,6487	Yes
	IF2	0,8394	0,7046			
	IF3	0,7926	0,6282			
	IF4	0,7580	0,5746			
LF	LF1	0,9135	0,8345	0,8585	0,6100	Yes
	LF2	0,8763	0,7679			
	LF4	0,7120	0,5069			
	LF5	0,5750	0,3306			
TSP	TSP1	0,9561	0,9141	0,8142	0,5392	Yes
	TSP2	0,8170	0,6675			
	TSP3	0,5759	0,3317			
	TSP4	0,4932	0,2432			
TS_CO	CO1	0,6917	0,4784	0,8864	0,6121	Yes
	CO2	0,8538	0,7290			
	CO3	0,8142	0,6629			
	CO4	0,6679	0,4461			
	CO5	0,8625	0,7439			
TS_IN	IN1	0,7422	0,5509	0,9028	0,6998	Yes
	IN2	0,8699	0,7567			
	IN3	0,8611	0,7415			
	IN4	0,8662	0,7503			
TS_INS	INS1	0,8870	0,7868	0,8632	0,5693	Yes
	INS2	0,8332	0,6942			
	INS3	0,8429	0,7105			
	INS4	0,6717	0,4512			
	INS5	0,4513	0,2037			
TS_OV	OV1	0,8312	0,6909	0,9150	0,6844	Yes
	OV2	0,8625	0,7439			
	OV3	0,8765	0,7683			
	OV4	0,6853	0,4696			
	OV5	0,8655	0,7491			
TS_UN	UN1	0,7477	0,5591	0,8810	0,6510	Yes
	UN2	0,9014	0,8125			
	UN3	0,8413	0,7078			
	UN4	0,7244	0,5248			
JBO_CI	CI1	0,7583	0,5750	0,8624	0,5569	Yes
	CI2	0,7804	0,6090			
	CI3	0,7011	0,4915			
	CI4	0,7848	0,6159			
	CI5	0,7021	0,4929			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
JBO_EI	EI1	0,7336	0,5382	0,8967	0,6352	Yes
	EI2	0,7867	0,6189			
	EI3	0,7984	0,6374			
	EI4	0,8021	0,6434			
	EI5	0,8593	0,7384			
JBO_EXH	EXH1	0,7807	0,6095	0,9165	0,5810	Yes
	EXH2	0,6077	0,3693			
	EXH3	0,8028	0,6445			
	EXH4	0,7992	0,6387			
	EXH5	0,8444	0,7130			
	EXH6	0,7563	0,5720			
	EXH7	0,6614	0,4374			
	EXH8	0,8149	0,6641			
JBO_MD	MD1	0,8642	0,7468	0,8924	0,6251	Yes
	MD2	0,7018	0,4925			
	MD3	0,8293	0,6877			
	MD4	0,7775	0,6045			
	MD5	0,7707	0,5940			
JBO_PC	PC2	0,7480	0,5595	0,7985	0,5692	Yes
	PC3	0,7445	0,5543			
	PC4	0,7706	0,5938			
JBO_PD	PD1	0,7506	0,5634	0,8392	0,5150	Yes
	PD2	0,8174	0,6681			
	PD3	0,7702	0,5932			
	PD4	0,5508	0,3034			
	PD5	0,6686	0,4470			

Table 24 Assessing measurement model HOC: Gender

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF1	0,8742	0,7642	0,9311	0,8713	Yes
	IF3	0,8709	0,7585			
	IF4	0,8699	0,7567			
LF	LF1	0,9181	0,8429	0,8529	0,6068	Yes
	LF2	0,932	0,8686			
TSP	TSP1	0,9561	0,9141	0,8142	0,5392	Yes
	TSP2	0,817	0,6675			
	TSP3	0,5759	0,3317			
	TSP4	0,4932	0,2432			
TS*IF	TS*IF1	0,9005	0,8109	0,9223	0,8558	Yes
	TS*IF3	0,8233	0,6778			
	TS*IF4	0,9133	0,8341			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
TS*LF	TS*LF1	0,8931	0,7976	1,0000	1,0000	Yes
	TS*LF2	0,9721	0,9450			
TS*TSP	TS*TSP1	0,9518	0,9059	0,9113	0,7743	Yes
	TS*TSP2	0,913	0,8336			
	TS*TSP3	0,4762	0,2268			
	TS*TSP4	0,6788	0,4608			
TS	TS	1,0000	1,0000	1,0000	1,0000	Yes
JBO	JBO	1,0000	1,0000	1,0000	1,0000	Yes

Table 25 Assessing measurement model LOC: Education

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF1	0,8258	0,6819	0,8840	0,6559	Yes
	IF2	0,8345	0,6964			
	IF3	0,8000	0,6400			
	IF4	0,7780	0,6053			
LF	LF1	0,9086	0,8256	0,8347	0,5138	Yes
	LF2	0,8523	0,7264			
	LF3	0,5288	0,2796			
	LF4	0,5927	0,3513			
	LF5	0,6215	0,3863			
TSP	TSP1	0,7880	0,6209	0,8713	0,6325	Yes
	TSP2	0,8987	0,8077			
	TSP3	0,6251	0,3908			
	TSP4	0,8430	0,7106			
TS_CO	CO1	0,7162	0,5129	0,9043	0,6561	Yes
	CO2	0,9021	0,8138			
	CO3	0,8014	0,6422			
	CO4	0,7204	0,5190			
	CO5	0,8904	0,7928			
TS_IN	IN1	0,7151	0,5114	0,8665	0,6193	Yes
	IN2	0,8156	0,6652			
	IN3	0,7976	0,6362			
	IN4	0,8150	0,6642			
TS_INS	INS1	0,9011	0,8120	0,8896	0,6206	Yes
	INS2	0,8183	0,6696			
	INS3	0,8348	0,6969			
	INS4	0,7373	0,5436			
	INS5	0,6172	0,3809			
TS_OV	OV1	0,8570	0,7344	0,9137	0,6802	Yes
	OV2	0,8524	0,7266			
	OV3	0,8387	0,7034			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
	OV4	0,7196	0,5178			
	OV5	0,8479	0,7189			
TS_UN	UN1	0,7136	0,5092	0,8838	0,6565	Yes
	UN2	0,8678	0,7531			
	UN3	0,8254	0,6813			
	UN4	0,8261	0,6824			
JBO_CI	CI1	0,8214	0,6747	0,8955	0,6328	Yes
	CI2	0,8312	0,6909			
	CI3	0,7329	0,5371			
	CI4	0,8621	0,7432			
	CI5	0,7198	0,5181			
JBO_EI	EI1	0,7758	0,6019	0,8941	0,6283	Yes
	EI2	0,8061	0,6498			
	EI3	0,7975	0,6360			
	EI4	0,7552	0,5703			
	EI5	0,8269	0,6838			
JBO_EXH	EXH1	0,8469	0,7172	0,9182	0,5856	Yes
	EXH2	0,6294	0,3961			
	EXH3	0,7528	0,5667			
	EXH4	0,7755	0,6014			
	EXH5	0,8117	0,6589			
	EXH6	0,7592	0,5764			
	EXH7	0,7251	0,5258			
	EXH8	0,8015	0,6424			
JBO_MD	MD1	0,8681	0,7536	0,9000	0,6444	Yes
	MD2	0,6767	0,4579			
	MD3	0,8430	0,7106			
	MD4	0,8254	0,6813			
	MD5	0,7865	0,6186			
JBO_PC	PC2	0,7431	0,5522	0,8226	0,5387	Yes
	PC3	0,6544	0,4282			
	PC4	0,8260	0,6823			
	PC5	0,7015	0,4921			
JBO_PD	PD1	0,6793	0,4614	0,8656	0,5643	Yes
	PD2	0,7874	0,6200			
	PD3	0,8302	0,6892			
	PD4	0,6963	0,4848			
	PD5	0,7524	0,5661			

Table 26 Assessing measurement model HOC: Education

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF2	0,8565	0,7336	0,8776	0,7052	Yes
	IF3	0,8582	0,7365			
	IF4	0,8036	0,6458			
LF	LF1	0,9130	0,8336	0,8435	0,6490	Yes
	LF2	0,8658	0,7496			
	LF5	0,6032	0,3639			
TSP	TSP1	0,7880	0,6209	0,8713	0,6325	Yes
	TSP2	0,8987	0,8077			
	TSP3	0,6251	0,3908			
	TSP4	0,8430	0,7106			
TS*IF	TS*IF2	0,8565	0,7336	0,8523	0,6594	Yes
	TS*IF3	0,8582	0,7365			
	TS*IF4	0,8036	0,6458			
TS*LF	TS*LF1	0,8546	0,7303	0,8132	0,6110	Yes
	TS*LF2	0,9484	0,8995			
	TS*LF5	0,4509	0,2033			
TS*TSP	TS*TSP1	0,8931	0,7976	0,9106	0,7213	Yes
	TS*TSP2	0,9388	0,8813			
	TS*TSP3	0,6622	0,4385			
	TS*TSP4	0,8763	0,7679			
TS	TS	1,0000	1,0000	1,0000	1,0000	Yes
JBO	JBO	1,0000	1,0000	1,0000	1,0000	Yes

Table 27 Assessing measurement model LOC: Work experience

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF1	0,8158	0,6655	0,8802	0,6491	Yes
	IF2	0,9005	0,8109			
	IF3	0,7755	0,6014			
	IF4	0,7201	0,5185			
LF	LF1	0,9092	0,8266	0,8087	0,4786	Yes
	LF2	0,8727	0,7616			
	LF3	0,4214	0,1776			
	LF4	0,6044	0,3653			
	LF5	0,5117	0,2618			
TSP	TSP1	0,6237	0,3890	0,7972	0,5114	Yes
	TSP2	0,5979	0,3575			
	TSP3	0,5535	0,3064			
	TSP4	0,9965	0,9930			
TS_CO	CO1	0,7501	0,5627	0,8969	0,6372	Yes

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
	CO2	0,8773	0,7697			
	CO3	0,7918	0,6269			
	CO4	0,6712	0,4505			
	CO5	0,8812	0,7765			
TS_IN	IN1	0,7546	0,5694	0,8852	0,6587	Yes
	IN2	0,8455	0,7149			
	IN3	0,8115	0,6585			
	IN4	0,8320	0,6922			
TS_INS	INS1	0,8766	0,7684	0,8932	0,6281	Yes
	INS2	0,8295	0,6881			
	INS3	0,8405	0,7064			
	INS4	0,7299	0,5328			
	INS5	0,6670	0,4449			
TS_OV	OV1	0,8270	0,6839	0,9160	0,6863	Yes
	OV2	0,8712	0,7590			
	OV3	0,8540	0,7293			
	OV4	0,7298	0,5326			
	OV5	0,8525	0,7268			
TS_UN	UN1	0,7288	0,5311	0,8864	0,6622	Yes
	UN2	0,8933	0,7980			
	UN3	0,8251	0,6808			
	UN4	0,7994	0,6390			
JBO_CI	CI1	0,7924	0,6279	0,8954	0,6318	Yes
	CI2	0,8278	0,6853			
	CI3	0,7542	0,5688			
	CI4	0,8415	0,7081			
	CI5	0,7540	0,5685			
JBO_EI	EI1	0,7488	0,5607	0,8885	0,6149	Yes
	EI2	0,8097	0,6556			
	EI3	0,7951	0,6322			
	EI4	0,7479	0,5594			
	EI5	0,8165	0,6667			
JBO_EXH	EXH1	0,8463	0,7162	0,9266	0,6129	Yes
	EXH2	0,6989	0,4885			
	EXH3	0,8088	0,6542			
	EXH4	0,8000	0,6400			
	EXH5	0,8084	0,6535			
	EXH6	0,7651	0,5854			
	EXH7	0,7312	0,5347			
	EXH8	0,7944	0,6311			
JBO_MD	MD1	0,8529	0,7274	0,8642	0,5618	Yes
	MD2	0,6654	0,4428			
	MD3	0,7856	0,6172			
	MD4	0,7167	0,5137			

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
	MD5	0,7127	0,5079			
JBO_PC	PC2	0,7892	0,6228	0,8220	0,5368	Yes
	PC3	0,7066	0,4993			
	PC4	0,7549	0,5699			
	PC5	0,6748	0,4554			
JBO_PD	PD1	0,7222	0,5216	0,8546	0,5434	Yes
	PD2	0,8169	0,6673			
	PD3	0,8294	0,6879			
	PD4	0,6170	0,3807			
	PD5	0,6779	0,4595			

Table 28 Assessing measurement model HOC: Work experience

Name	Indicators	Loadings	Indicator Reliability	Composite Reliability	AVE	Discriminant Validity Cross Loadings
IF	IF1	0,8158	0,6655	0,8802	0,6491	Yes
	IF2	0,9005	0,8109			
	IF3	0,7755	0,6014			
	IF4	0,7201	0,5185			
LF	LF1	0,9135	0,8345	0,9090	0,8332	Yes
	LF2	0,9122	0,8321			
TSP	TSP1	0,6237	0,3890	0,7972	0,5114	Yes
	TSP2	0,5979	0,3575			
	TSP3	0,5535	0,3064			
	TSP4	0,9965	0,9930			
TS*IF	TS*IF1	0,8921	0,7958	0,8581	0,6105	Yes
	TS*IF2	0,5278	0,2786			
	TS*IF3	0,7648	0,5849			
	TS*IF4	0,8846	0,7825			
TS*LF	TS*LF1	0,8895	0,7912	0,9141	0,8419	Yes
	TS*LF2	0,9447	0,8925			
TS*TSP	TS*TSP1	0,9287	0,8625	0,9189	0,7411	Yes
	TS*TSP2	0,9267	0,8588			
	TS*TSP3	0,7203	0,5188			
	TS*TSP4	0,8511	0,7244			
TS	TS	1,0000	1,0000	1,0000	1,0000	Yes
JBO	JBO	1,0000	1,0000	1,0000	1,0000	Yes